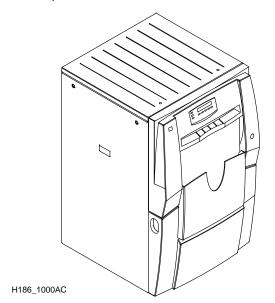


ADJUSTMENTS AND REPLACEMENTS for the Kodak X-Omat MULTILOADER 7000 Service Code: 3444

- Kodak Home Page on Internet
- Tech Bulletin on Intranet
- Table of Contents



Qualified service personnel must do these procedures.



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This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.



- The DISPLAY PANEL contains a trace amount of mercury. Disposal of this product may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities.
- To avoid hazardous conditions, keep floors and floor coverings around your MULTILOADER and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunctions of the drain associated with your MULTILOADER, call a plumber or other contractor to correct any problem with the drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a MULTILOADER. Such drains are the sole responsibility of the customer.

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Section 1: Adjustments

CASSETTE INPUT FLAP

Adjustment Specification

Purpose: To make the CASSETTE INPUT FLAP completely closed to any light after a CASSETTE is

inserted.

Specification: The CASSETTE INPUT FLAP seats correctly when closed.

Special Tools: None

Prerequisites: Remove the FRONT PANEL.

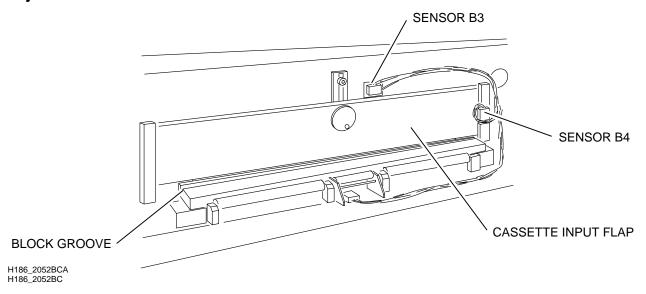
Postrequisites: None

To Check:

[1] Using the "SERVICE SOFTWARE", close the CASSETTE INPUT FLAP.

[2] Check that the INPUT FLAP is tightly closed.

To Adjust:



- [1] Adjust SENSOR B4 up or down as necessary.
- [2] Using the "SERVICE SOFTWARE", open the CASSETTE INPUT FLAP, then close it.
- [3] Is the CASSETTE INPUT FLAP fully seated in the BLOCK GROOVE?

Yes	No
Continue with <u>Step 4</u> .	Do <u>Step 1</u> - <u>Step 3</u> again.

- [4] Using the "SERVICE SOFTWARE", open the CASSETTE INPUT FLAP.
- [5] Is the FLAP fully open?

Yes	No
Advance to Step 9.	Continue with <u>Step 6</u> .

- [6] Adjust SENSOR B3 up or down as necessary.
- [7] Using the "SERVICE SOFTWARE", close the CASSETTE INPUT FLAP, then open it.

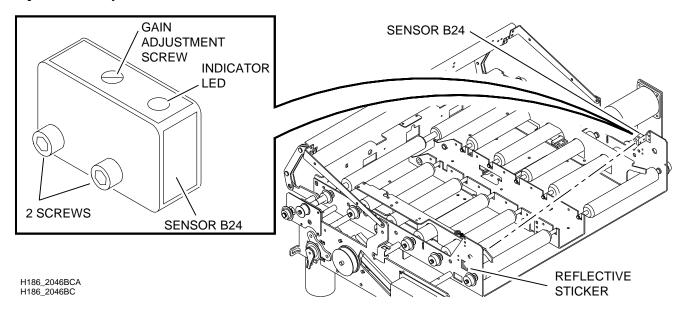
[8] Is the CASSETTE INPUT FLAP fully open?

Yes	No
Continue with <u>Step 9</u> .	Do Step 6 - Step 8 again.

- [9] Exit the "SERVICE SOFTWARE".
- [10] Install the FRONT PANEL.

SENSOR B24

Adjustment Specification



Purpose: To prevent Error Code C74 if SENSOR B2 is touched by a hand or when a CASSETTE is

pulled out.

Specification: The INDICATOR LED is green when no CASSETTE is inserted in the MULTILOADER 7000.

Special Tools: None

Prerequisites: Lift the TOP COVER.

Postrequisites: None

To Check:

- [1] Check:
 - INDICATOR LED is green when no CASSETTE is inserted in the MULTILOADER 7000
 - INDICATOR LED is "OFF" when a CASSETTE enters the MULTILOADER 7000

To Adjust:

- [1] Using the "SERVICE SOFTWARE", start the "Cassette Sensor Test".
- [2] Loosen the 2 SCREWS.
- [3] Rotate the GAIN ADJUSTMENT SCREW fully clockwise.
- [4] Move the SENSOR B24 up and down until the infrared beam is reflected by the REFLECTIVE STICKER.

Note

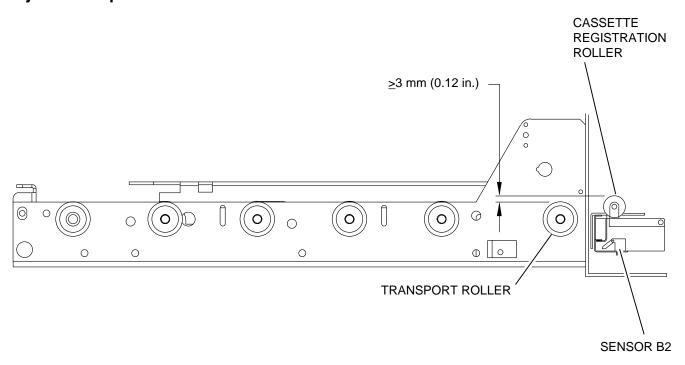
This makes the INDICATOR LED green.

[5] Tighten the 2 SCREWS.

- [6] Rotate the GAIN ADJUSTMENT SCREW:
 - · counterclockwise until the INDICATOR LED is red
 - · clockwise until the INDICATOR LED is green
- [7] Using the "SERVICE SOFTWARE", check that the SENSOR B24 changes status in "Cassette Sensor Test" when the CASSETTE enters the MULTILOADER 7000.
- [8] Exit the "SERVICE SOFTWARE".
- [9] Close the TOP COVER.

SENSOR B2

Adjustment Specification



H186_2045HCA H186_2045HC

Purpose: To check that SENSOR B2 remains actuated when a CASSETTE is inserted and during an

exit.

Specification: The distance between the CASSETTE REGISTRATION ROLLER and the TRANSPORT

ROLLER is \geq 3 mm (0.12 in.)

Special Tools: None

Prerequisites: Lift the TOP COVER.

Postrequisites: Check:

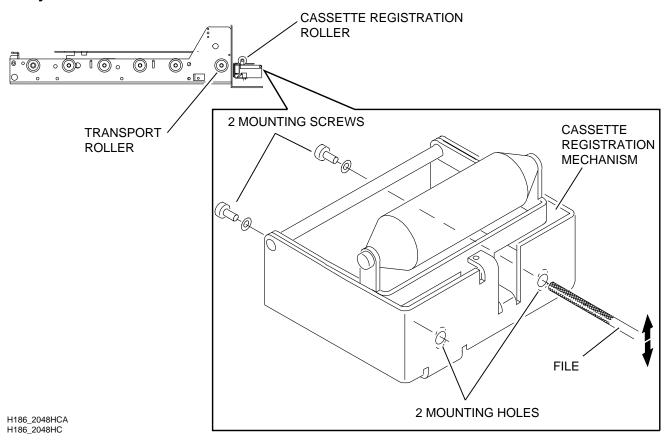
· no cycle is started when a CASSETTE is removed

SENSOR B2 is operating correctly with all PANELS installed

To Check:

[1] Check that the distance between the CASSETTE REGISTRATION ROLLER and the TRANSPORT ROLLER is \geq 3 mm (0.12 in.)

To Adjust:





Warning

Dangerous Voltage

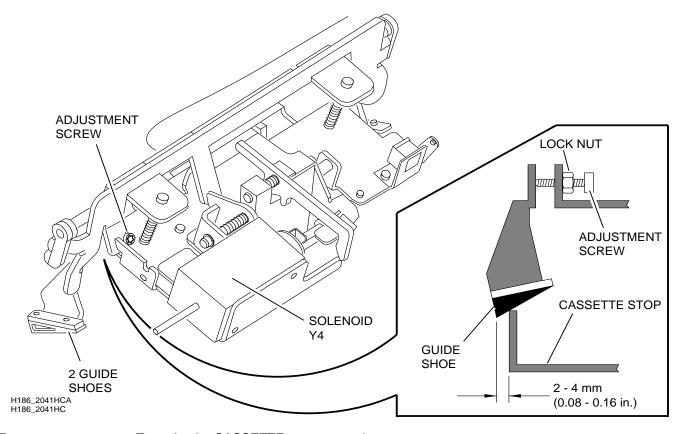
- [1] De-energize the MULTILOADER 7000.
- [2] Remove the FRONT PANEL.
- [3] Loosen the 2 MOUNTING SCREWS.
- [4] Adjust the CASSETTE REGISTRATION MECHANISM up so that the distance between the CASSETTE REGISTRATION ROLLER and the TRANSPORT ROLLER is ≥ 3 mm (0.12 in.).
- [5] Is the distance correct?

Yes	No
Advance to Step 9.	1. Continue with Step 6 - Step 8.
	2. Do Step 4 and Step 5 again.

- [6] Remove the CASSETTE REGISTRATION MECHANISM.
- [7] Make the 2 MOUNTING HOLES larger. Use a small FILE.
- [8] Install the CASSETTE REGISTRATION MECHANISM.
- [9] Install the FRONT PANEL.
- [10] Close the TOP COVER.

CASSETTE OPENER GUIDE SHOE

Adjustment Specification



Purpose: To make the CASSETTE open correctly.

Specification: The distance between the 2 GUIDE SHOES and the CASSETTE STOP is between

2 - 4 mm (0.08 - 0.16 in.)

Special Tools: None

Prerequisites: Lift the TOP COVER.

Postrequisites: None

To Check:

[1] Using the "SERVICE SOFTWARE", select "Step Down" from "Cassette Opening (M5)" until the left and right GUIDE SHOES touch the CASSETTE STOP.



The SOLENOID Y4 must be released.

[2] Check that the distance between the 2 GUIDE SHOES and the CASSETTE STOP is between 2 - 4 mm (0.08 - 0.16 in.)

To Adjust:

- [1] Loosen the LOCK NUT.
- [2] Adjust the distance between the lower edge of the 2 GUIDE SHOES and the CASSETTE STOP to 2 4 mm (0.08 0.16 in.) by rotating the ADJUSTMENT SCREW.
- [3] Tighten the LOCK NUT.
- [4] Exit the "SERVICE SOFTWARE".
- [5] Close the TOP COVER.

CASSETTE OPENER MECHANISM

Adjustment Specification

Purpose: To allow:

CASSETTES to open and close correctly

CASSETTE OPENER MECHANISM to move the correct distance to prevent scratches

on the UPPER SCREEN of the CASSETTE

Specification: The OPENER BRACKET is vertical.

Special Tools: None

Prerequisites: • Lift the TOP COVER.

· Remove the left SIDE PANEL.

Postrequisites: Check that the CASSETTE BLOWPIPES are in the correct positions. See the adjustment

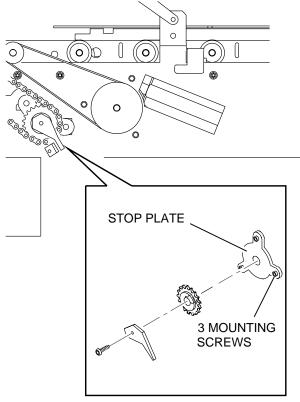
procedure for the CASSETTE BLOWPIPES, Page 13.

To Check:

[1] Check:

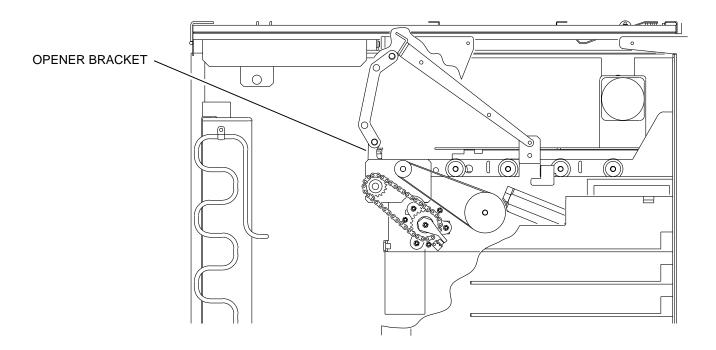
- · CASSETTES open and close correctly
- · no scratches on the UPPER SCREEN

To Adjust:



- [1] Loosen the 3 MOUNTING SCREWS on the STOP PLATE.
- [2] Using the "SERVICE SOFTWARE", select "Up" from "Cassette Opening (M5)".

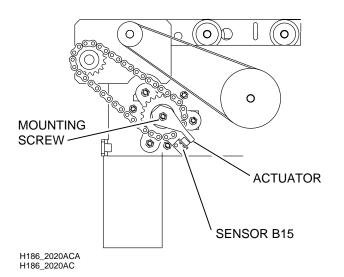
H186_2056GCC H186_2056GC



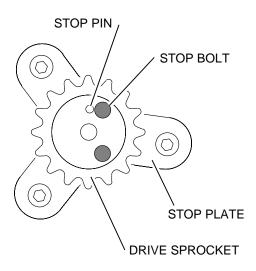
H186_2009HCB H186_2009HC

[3] Is the OPENER BRACKET vertical?

Yes	No
Advance to Step 8.	Continue with <u>Step 4</u> .



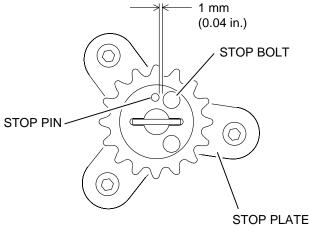
- [4] Loosen the MOUNTING SCREW.
- **[5]** Adjust the ACTUATOR of SENSOR B15 as necessary.
- [6] Using the "SERVICE SOFTWARE, select "Down" from "Cassette Opening (M5)"
- [7] Do Step 2 and Step 3 again.

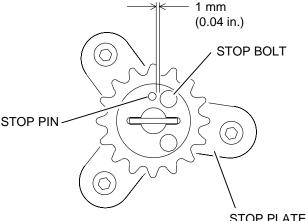


[8] When the CASSETTE OPENER ASSEMBLY is in the "Up" position, rotate the STOP PLATE counterclockwise until the STOP PIN of the DRIVE SPROCKET touches the top STOP BOLT.

H186_2057ACA H186_2057AC

H186_2019ACA H186_2019AC



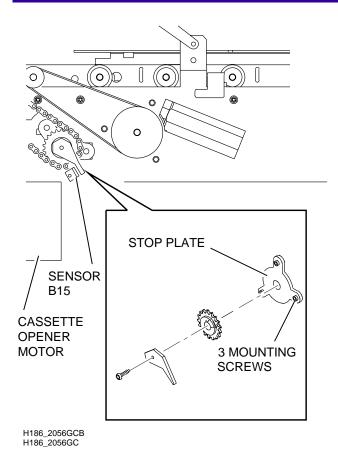


Important

The 1 mm (0.04 in.) distance is not visible.

[9] Manually rotate the STOP PLATE clockwise until there is an approximate distance of 1mm (0.04 in.) between the STOP PIN and the STOP BOLT.

11 5E9999 - 06DEC01



- [10] Tighten the 3 MOUNTING SCREWS on the STOP PLATE.
- [11] To check the correct position of the STOP PLATE:
 - (a) Disconnect the SENSOR B15.
 - **(b)** From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Up".

Note

The CASSETTE OPENER MOTOR moves a minimum distance and stops. There is a high frequency noise at the same time.

- (c) Connect the SENSOR B15.
- (d) From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Down" until the CASSETTE OPENER MOTOR stops in the bottom position.
- (e) Manually actuate the SENSOR B15.
- **(f)** Using the "SERVICE SOFTWARE", select "Down" again.

Note

The CASSETTE OPENER MOTOR moves a minimum distance and stops. There is a high frequency noise at the same time.

- (g) From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Up" until the CASSETTE OPENER MOTOR stops in the up position.
- [12] Are the "Up" and "Down" positions correct?

Yes	No
Continue with <u>Step 13</u> .	Do Step 8 - Step 12 again.

- [13] Exit the "SERVICE SOFTWARE".
- [14] Install the left SIDE PANEL.
- [15] Close the TOP COVER.

CASSETTE BLOWPIPES

Adjustment Specification

Purpose: To check that the 2 CASSETTE BLOWPIPES are in the correct position.

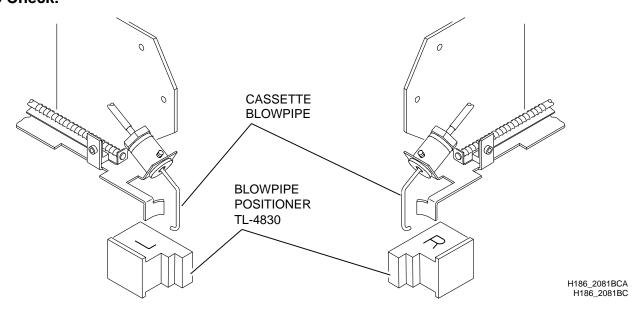
Specification: The TIP of the CASSETTE BLOWPIPE is below the CASSETTE LID.

Special Tools: BLOWPIPE POSITIONER TL-4830

Prerequisites: Lift the TOP COVER.

Postrequisites: None

To Check:

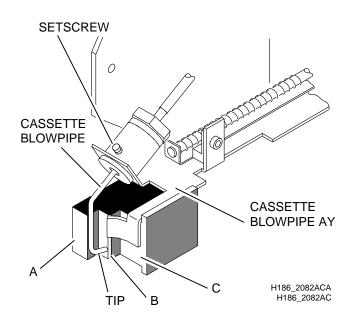




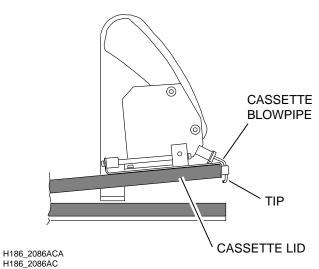
Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Place the BLOWPIPE POSITIONER TL-4830 under the CASSETTE BLOWPIPE.
- [3] Check the correct positions of the CASSETTE BLOWPIPE. See the graphics in the "To Adjust" procedure on Page 14.

To Adjust:



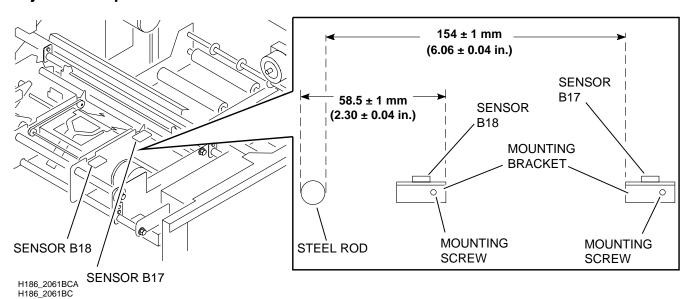
- [1] Loosen the SETSCREW.
- [2] Adjust:
 - CASSETTE BLOWPIPE parallel to the surface A
 - TIP of the CASSETTE BLOWPIPE touches the surface B
 - CASSETTE BLOWPIPE AY seats fully against the surface C
- [3] Tighten the SETSCREW.



- [4] Using a CASSETTE, check that the TIP of the CASSETTE BLOWPIPE is below the CASSETTE LID.
- [5] If the TIP of the CASSETTE BLOWPIPE is too high, install a new CASSETTE BLOWPIPE.
- [6] Close the TOP COVER.

SENSORS B17 and B18

Adjustment Specification



Purpose:

- To allow the CASSETTE SUCKER BAR to move the correct distance into and out of the CASSETTE.
- To obtain correct film removal from the CASSETTE.
- To check that the CASSETTE SUCKERS are pulled back correctly from the film when it advances into the TRANSPORT ROLLERS.

Specification:

- MOUNTING BRACKET of the SENSOR B17 is 154 \pm 1 mm (6.06 \pm 0.04 in.) to the inside of the REAR STEEL ROD.
- MOUNTING BRACKET of the SENSOR B18 is 58.5 ± 1 mm (2.30 ± 0.04 in.) to the outside of the REAR STEEL ROD.

Special Tools: None

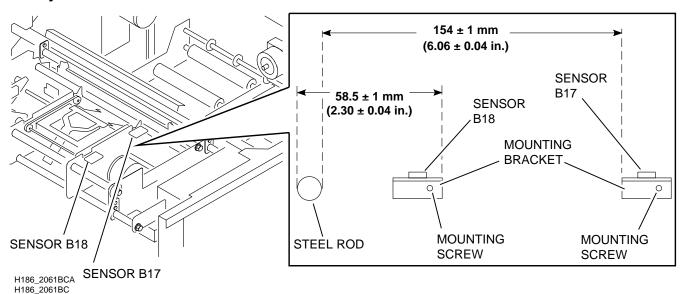
Prerequisites: Lift the TOP COVER.

Postrequisites: None

To Check:

[1] See the adjustment procedure.

To Adjust:



- [1] Check the distance between the MOUNTING BRACKET of the SENSOR B18 and the outside of the back STEEL ROD.
- [2] Is the distance 58.5 ± 1 mm $(2.30 \pm 0.04 \text{ in.})$?

Yes	No
Advance to Step 5.	Continue with <u>Step 3</u> .

- [3] Loosen the MOUNTING SCREW.
- [4] Move the MOUNTING BRACKET of SENSOR B18 as necessary.
- [5] Check the distance between the MOUNTING BRACKET of SENSOR B17 and the inside of the back STEEL ROD.
- [6] Is the distance $154 \pm 1 \text{ mm} (6.06 \pm 0.04 \text{ in.})$?

Yes	No
Advance to Step 9.	Continue with <u>Step 7</u> .

- [7] Loosen the MOUNTING SCREW.
- [8] Move the MOUNTING BRACKET of SENSOR B17 as necessary.
- [9] Close the TOP COVER.

CASSETTE SUCKER BAR

Adjustment Specification

-

 Allows the CASSETTE SUCKER BAR to move the correct distance into and out of the CASSETTE.

To obtain the correct film removal from the CASSETTE.

• To check that the CASSETTE SUCKERS are pulled back correctly from the film when the film advances into the TRANSPORT ROLLERS.

Specification: Back edge of the CASSETTE SUCKERS is 19 ± 1 mm $(0.75 \pm 0.04 \text{ in.})$ from the back of the

ADJUSTMENT PLATE TL-4804.

Special Tools: ADJUSTMENT PLATE TL-4804

Prerequisites: 1. Do the adjustment for the SENSORS B17 and B18. See Page 15.

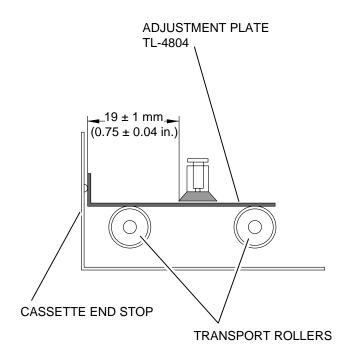
2. Lift the TOP COVER.

3. Remove the left SIDE PANEL.

Postrequisites: None

To Check:

Purpose:

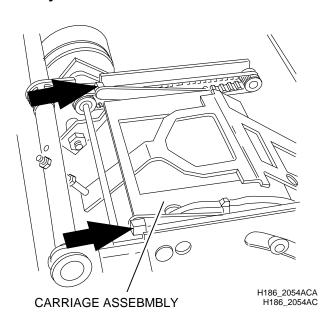


- [1] Place the ADJUSTMENT PLATE TL-4804 on the TRANSPORT ROLLERS and touching the CASSETTE END STOP.
- [2] Check for a distance of 19 ± 1 mm $(0.75 \pm 0.04$ in.) from the back of the ADJUSTMENT PLATE TL-4804.

H186_2058GCA H186_2058GC

To Adjust:

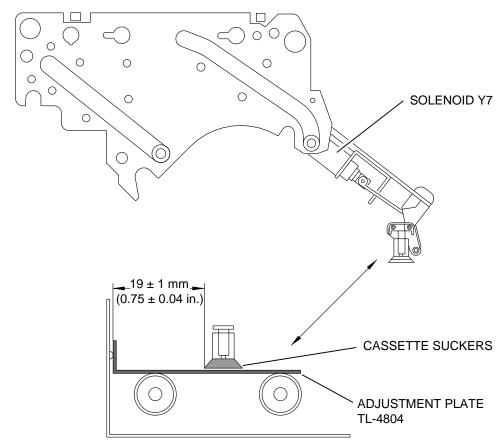
H186_2055HCA H186_2055HC



- [1] Using the "SERVICE SOFTWARE", select "Component Test".
- [2] Manually move the CARRIAGE ASSEMBLY forward for approximately 40 mm (1.57 in.).
- [3] From "Component Test" in the "SERVICE SOFTWARE", energize the SOLENOID Y7.

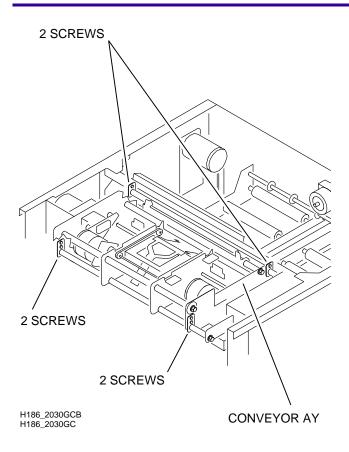
Note

To prevent the SOLENOID Y7 from being too hot, it deenergizes after approximately 1 minute.

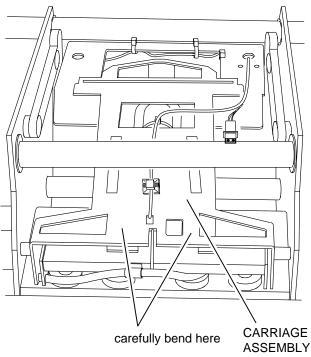


- [4] Manually move the CARRIAGE ASSEMBLY forward until the CASSETTE SUCKERS reach the ADJUSTMENT PLATE TL-4804.
- [5] Is the back edge of the CASSETTE SUCKERS 19 \pm 1 mm (0.75 \pm 0.04 in.) from the back of the ADJUSTMENT PLATE?

Yes	No
Advance to Step 8.	Continue with <u>Step 6</u> .



- [6] If the distance is not correct:
 - (a) Loosen the 6 SCREWS.
 - **(b)** Move the CONVEYOR ASSEMBLY forward or backward as necessary.
 - (c) Tighten the 6 SCREWS.
 - (d) Check for the correct distance. See <u>Step 5</u>.
 - **(e)** If the distance is <u>not</u> correct again, continue with <u>Step 7</u>.

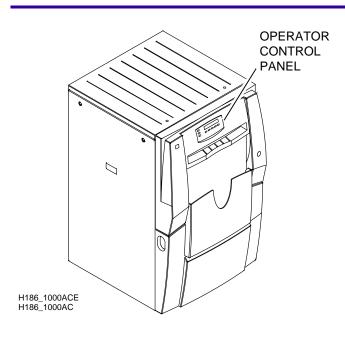


H186_2059GCA H186_2059GC

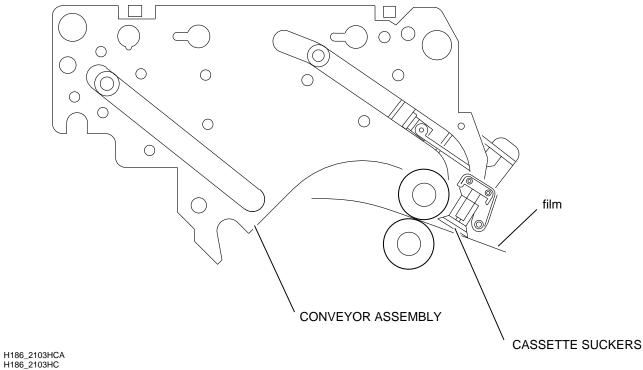
Important

Do Step 7 only if you cannot obtain the correct distance of 19 ± 1 mm (0.75 \pm 0.04 in.).

- [7] Carefully bend the CARRIAGE ASSEMBLY to obtain the correct distance. See the graphic.
- [8] Exit the "SERVICE SOFTWARE".

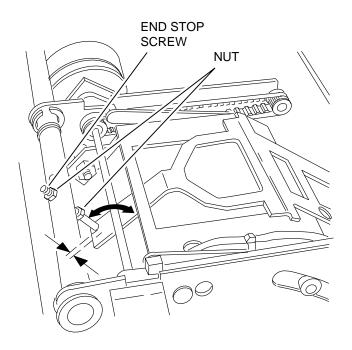


[9] From the OPERATOR CONTROL PANEL, enable the "CONTINUOUS LOOP MODE".



- [10] Feed an 18 x 24 cm (7.1 x 9.5 in.) CASSETTE.
- [11] Observe from the side that the trailing edge of the film touches the CASSETTE SUCKERS when the film is moving through the CONVEYOR ASSEMBLY.
- [12] Does the trailing edge of the film touch the CASSETTE SUCKERS?

Yes	No
Advance to Step 14.	Continue with <u>Step 13</u> .

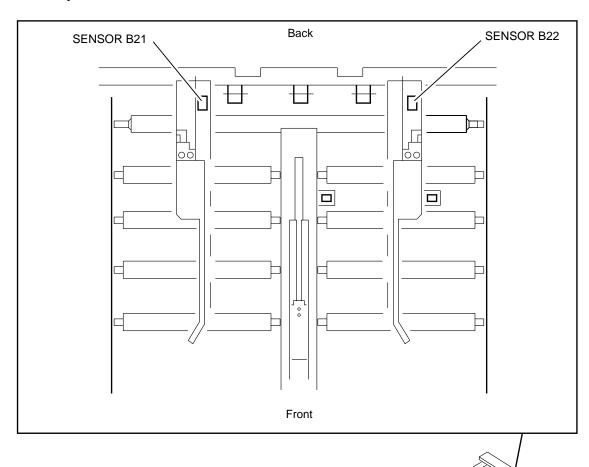


- [13] If the trailing edge of the film does **not** touch the CASSETTE SUCKERS:
 - (a) Loosen the NUT.
 - **(b)** Rotate the END STOP SCREW as necessary.
- [14] To disable the "CONTINUOUS LOOP MODE":
 - (a) Remove the CASSETTE.
 - (b) De-energize the MULTILOADER 7000.
 - (c) Wait 5 seconds.
 - (d) Energize the MULTILOADER 7000.
- [15] Install the left SIDE PANEL.
- [16] Close the TOP COVER.

H186_2053GCA H186_2053GC

SENSORS B21 and B22

Adjustment Specification



H186_0043DCC H186_0043DC

Purpose: To allow the SENSORS B21 and B22 to acknowledge the TYPE 2 STICKER on

the CASSETTE.

Specification: Voltage readings between P1 and P21 for SENSOR B21, and voltage between

P4 and P21 for SENSOR B22:

• ≤ 1.0 V DC when the SENSOR is "On" using any type CASSETTE

• > 3.5 V DC when the SENSOR is "Off" using a Kodak X-Omatic CASSETTE

• > 4.0 V DC when the SENSOR is "Off" using a Kodak Min-R CASSETTE

Special Tools: DIGITAL MULTIMETER TL-3386

Prerequisites: • Lift TOP COVER.

· Remove the right SIDE PANEL.

Postrequisites: Operate the MULTILOADER 7000 using different TYPE 2 CASSETTES to check

for the correct operation.

To Check:

[1] See the adjustment procedure.

To Adjust

[1] From "Component Test" in the "SERVICE SOFTWARE", select "Cassette Sensor Test".



Important

A TYPE 2 - Kodak Min-R CASSETTE must be used for this adjustment procedure. If the CASSETTE is not available, use the following CASSETTES. See the INSTALLATION INSTRUCTIONS, Publication No. 5E9998, for more information.

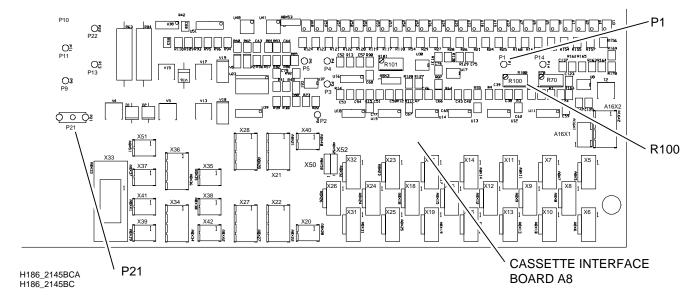
- TYPE 2 Kodak X-Omatic CASSETTE C-1 for the adjustment for SENSOR B21
- TYPE 2 Kodak X-Omatic CASSETTE C-3 for the adjustment for SENSOR B22
- [2] Manually insert and center a TYPE 2 Kodak Min-R CASSETTE or a TYPE 2 Kodak X-Omatic CASSETTE C-1.



Note

You do not have to do the adjustment for:

- SENSOR B22 if only a Kodak X-Omatic CASSETTE C-1 is used.
- SENSOR B21 if only a Kodak X-Omatic CASSETTE C-3 is used.





Possible damage from electrostatic discharge.

- [3] For the adjustment of SENSOR B21, connect the DIGITAL MULTIMETER TL-3386 between P1 and P21 GND on the CASSETTE INTERFACE BOARD A8.
- [4] Is the voltage reading $\leq 1.0 \text{ V DC}$?

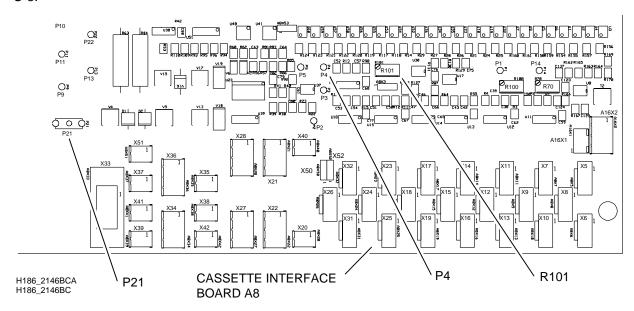
Yes	No
Advance to Step 6.	Continue with <u>Step 5</u> .

- [5] For SENSOR B21, if the voltage is **not** \leq 1.0 V DC, adjust:
 - position of the SENSOR B21 until the voltage reading reaches the minimum
 - R100 on CASSETTE INTERFACE BOARD A8 until the voltage reaches a minimum voltage of ≤ 1.0 V DC

- [6] Manually insert and center a NONTYPE 2 CASSETTE.
- [7] Using the "SERVICE SOFTWARE", check that the SENSOR B21 is "Off". Is the voltage between P1 and P21 > 3.5 V DC if a *Kodak X-Omatic* CASSETTE is used, or > 4.0 V DC if a *Kodak Min-R* CASSETTE is used?

Yes	No
Advance to Step 10.	Continue with <u>Step 8</u> .

- [8] If the voltage between P1 and P21 is **not** > 3.5 V DC or > 4.0 V DC, adjust R100 on the CASSETTE INTERFACE BD A8.
- [9] Do <u>Step 2</u> <u>Step 7</u> again.
- [10] Manually insert and center a TYPE 2 Kodak Min-R CASSETTE or a TYPE 2 Kodak X-Omatic CASSETTE C-3.



- [11] For the adjustment of SENSOR B22, connect the DIGITAL MULTIMETER TL-3386 between P4 and P21 GND on the CASSETTE INTERFACE BOARD A8.
- [12] Is the voltage reading ≤ 1.0 V DC?

Yes	No
Advance to Step 14.	Continue with <u>Step 13</u> .

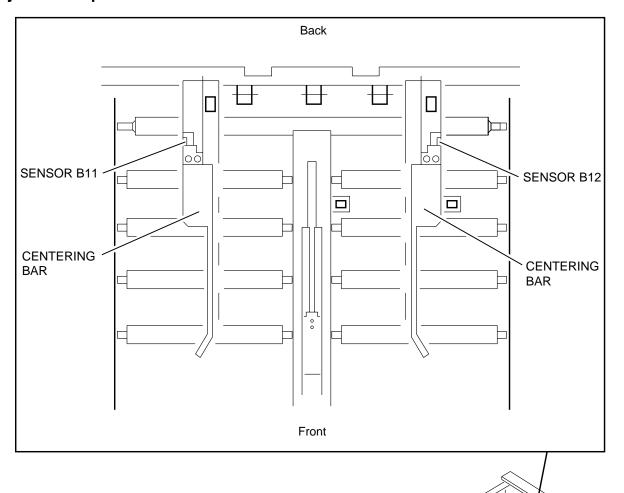
- [13] For SENSOR B22, if the voltage is **not** ≤ 1.0 V DC, adjust:
 - · position of the SENSOR B22 until the voltage reading reaches the minimum
 - R101 on CASSETTE INTERFACE BOARD A8 until the voltage reaches a minimum voltage of ≤ 1.0 V DC
- [14] Manually insert and center a NONTYPE 2 CASSETTE.
- [15] Using the "SERVICE SOFTWARE", check that SENSOR B22 is indicated as "Off". Is the voltage between P4 and P21 GND > 3.5 V DC if a *Kodak X-Omatic* CASSETTE is used, or > 4.0 V DC if a *Kodak Min-R* CASSETTE is used?

Yes	No
Advance to Step 18.	Continue with <u>Step 16</u> .

- [16] If the voltage between P4 and P21 GND is **not** > 3.5 V DC or > 4.0 V DC, adjust R101 on the CASSETTE INTERFACE BD A8.
- [17] Do <u>Step 10</u> <u>Step 15</u> again.
- [18] Remove the CASSETTE.
- [19] Exit the "SERVICE SOFTWARE".
- [20] Install the right SIDE PANEL.
- [21] Close the TOP COVER.

Length of CASSETTE - SENSORS B11 and B12

Adjustment Specification



H186_0043DCB H186_0043DC

Purpose: To check that the length of the CASSETTE is measured correctly.

Specification: The distance of the CASSETTE is 1.5 ± 0.5 mm $(0.06 \pm 0.02$ ιν.) φρομ τηε ριγητ

ΧΕΝΤΕΡΙΝΓ ΒΑΡ.

Special Tools: None

Prerequisites: Remove the TOP COVER.

Postrequisites: None

To Check:

[1] Check for the correct specification when the SENSORS B11 and B12 are actuated.

To Adjust:

- [1] Using the "SERVICE SOFTWARE", start the "Cassette Sensor Test".
- [2] Manually actuate the SENSOR B11 and fasten it in position with adhesive tape.
- [3] Insert and center a CASSETTE.
- [4] With a CASSETTE, carefully actuate SENSOR B12 by manually moving the CENTERING BAR toward the CASSETTE.
- [5] The SENSOR B12 should actuate when the distance of the CASSETTE is 1.5 ± 0.5 mm $(0.06 \pm 0.02$ in.) from the right CENTERING BAR.
- [6] If the distance of the CASSETTE is **not** correct, change the position of SENSOR B12.
- [7] Remove the tape from SENSOR B11.
- [8] Manually actuate the SENSOR B12 and fasten it in position with adhesive tape.
- [9] With a CASSETTE, carefully actuate SENSOR B11 by manually moving the CENTERING BAR toward the CASSETTE.
- **[10]** The SENSOR B11 should actuate when the distance of the CASSETTE is 1.5 ± 0.5 mm (0.06 \pm 0.02 in.) from the left CENTERING BAR.
- [11] If the distance of the CASSETTE is not correct, change the position of SENSOR B11.
- [12] Remove the tape from SENSOR B12.
- [13] Using the "SERVICE SOFTWARE", select:
 - "Change Parameters"
 - "Cassette Length" under SCREEN PARAMETERS



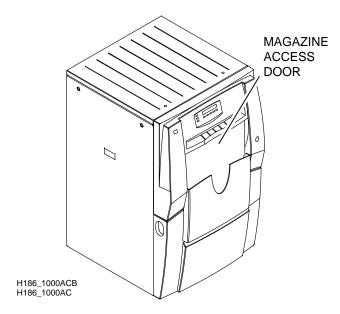
Important

If possible, use the smallest size CASSETTE available.

- [14] Using the LAPTOP COMPUTER, type in millimeters the measured length of the selected CASSETTE.
- [15] Insert the selected CASSETTE.
- [16] Select "OK". The MULTILOADER 7000 measures the length of the CASSETTE and calculates the correct value.
- [17] Select "Store Parameters".
- [18] Remove the CASSETTE.
- [19] Exit the "SERVICE SOFTWARE".
- [20] Install the TOP COVER.

MAGAZINE DOOR LOCKING MECHANISM

Adjustment Specification



Purpose: To allow the MAGAZINE ACCESS DOOR to open and close correctly.

Specification: The MAGAZINE ACCESS DOOR must close tightly to prevent light from entering.

Special Tools: None

Prerequisites: Open the MAGAZINE ACCESS DOOR.

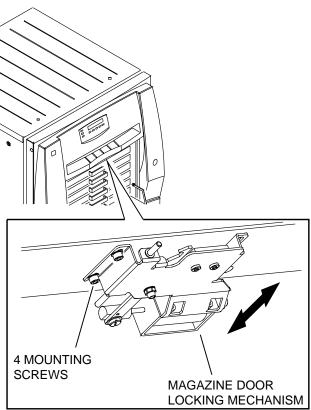
Postrequisites: None

To Check:

[1] Check:

- MAGAZINE ACCESS DOOR opens correctly and closes tightly
- no light enters the MULTILOADER 7000

To Adjust:



H186_2065GCA H186_2065GC

- [1] Loosen the 4 MOUNTING SCREWS.
- [2] Move the MAGAZINE DOOR LOCKING MECHANISM forward or backward.
- [3] Tighten the 4 MOUNTING SCREWS.
- [4] With your eyes, check the MAGAZINE DOOR LOCKING MECHANISM for squareness.
- [5] Close the MAGAZINE ACCESS DOOR.

Tension of the DRIVE BELT

Adjustment Specification

Purpose: To allow for correct transport of the CASSETTE.

Specification: Correct tension on the DRIVE BELT.

Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove:

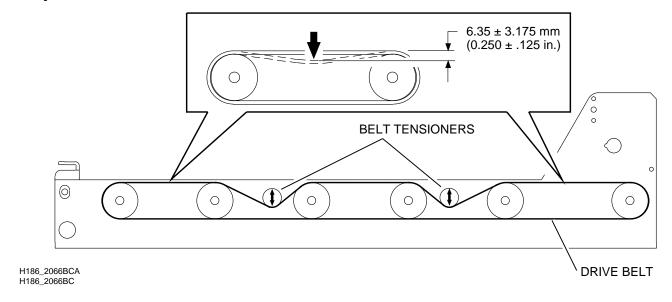
right SIDE PANELleft SIDE PANEL

Postrequisites: Do a test for correct transport using different size CASSETTES.

To Check:

[1] Check for correct drive of all TRANSPORT ROLLERS.

To Adjust:



- [1] Loosen the front and back BELT TENSIONERS.
- [2] Adjust both BELT TENSIONERS up or down to obtain the deflection of 6.35 ± 3.175 mm (0.250 \pm 0.125 in.).
- [3] Tighten the front and back BELT TENSIONERS.

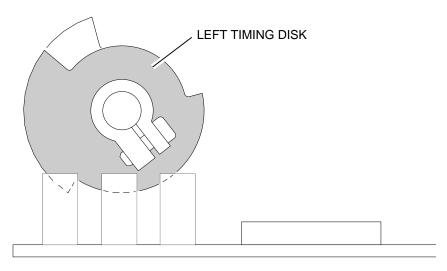
Note

The tension on the right and left DRIVE BELTS should be approximately the same.

- [4] Install:
 - right SIDE PANEL
 - left SIDE PANEL
- [5] Close the TOP COVER.

LEFT TIMING DISK

Adjustment Specification



H186_2043BCA H186_2043BA

Purpose: To adjust the LEFT TIMING DISK to de-energize the FILM POCKET SUCKER BAR MOTOR

M15.

Specification: • The FILM POCKET SUCKER BAR ARM reaches the fully up position with minimum

vibration.

• The BALL BEARING is fully engaged in the UPPER DETENT.

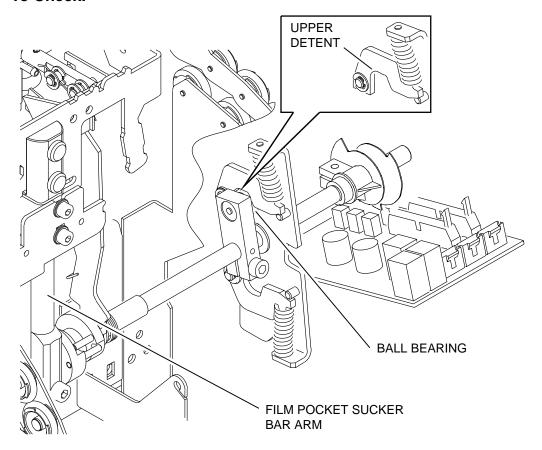
Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove the BACK PANEL.

Postrequisites: None

To Check:



H186_2136HCA H186_2136HC

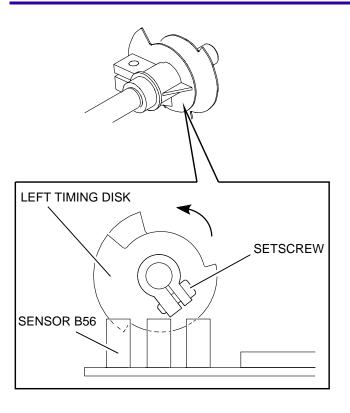
- [1] Remove all MAGAZINES.
- [2] Using the "SERVICE SOFTWARE":
 - (a) Move the FILM POCKET ASSEMBLY to LEVEL 3 by selecting "Move Only".
 - (b) From "Film Pick up Mag (M15)", select:
 - · "Backward"
 - "Forward"
- [3] Check:
 - FILM POCKET SUCKER BAR ARM reaches the fully up position with minimum vibration
 - BALL BEARING is fully engaged in the UPPER DETENT

To Adjust:

- [1] Using the "SERVICE SOFTWARE", start the "Magazine Sensor Test".
- [2] Manually move the FILM POCKET SUCKER BAR ARM to the fully up position.



The BALL BEARING must be fully engaged in the UPPER DETENT.



- [3] Loosen the SETSCREW.
- [4] Rotate the LEFT TIMING DISK:
 - clockwise, as observed from the center of the MULTILOADER, until SENSOR B56 is indicated as "Off".
 - counterclockwise, as observed from the center of the MULTILOADER, until SENSOR B56 is indicated as "On" and stopping immediately when SENSOR B56 energizes.
- [5] Tighten the SETSCREW.

H186_2077GCA H186_2077GC

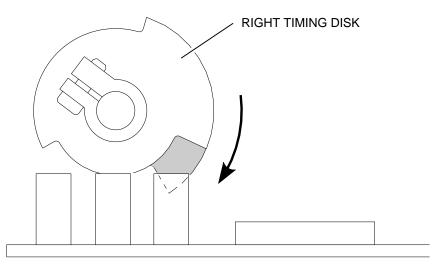
- [6] Using the "SERVICE SOFTWARE", select from "Film Pick up Mag (M15)":
 - · "Backward"
 - · "Forward"
- [7] Did:
 - FILM POCKET SUCKER BAR ARM reach the full up position with minimum vibration?
 - BALL BEARING fully engaged in the UPPER DETENT?

Yes	No
Advance to Step 11.	Continue with <u>Step 8</u> .

- [8] Loosen the SETSCREW.
- [9] Rotate the LEFT TIMING DISK:
 - · clockwise if the BALL BEARING is not fully engaged in the UPPER DETENT
 - counterclockwise if the BALL BEARING is fully engaged in the UPPER DETENT but has excessive vibration
- [10] Tighten the SETSCREW.
- [11] Exit the "SERVICE SOFTWARE".
- [12] Install:
 - MAGAZINES
 - BACK PANEL
- [13] Close the TOP COVER.

RIGHT TIMING DISK

Adjustment Specification



H186_2047BCA H186_2047BA

Purpose: To adjust the RIGHT TIMING DISK to de-energize the FILM POCKET SUCKER BAR

MOTOR M15.

Specification: • The FILM POCKET SUCKER BAR ARM reaches the fully lower position with minimum

vibration.

• The BALL BEARING is fully engaged in the LOWER DETENT.

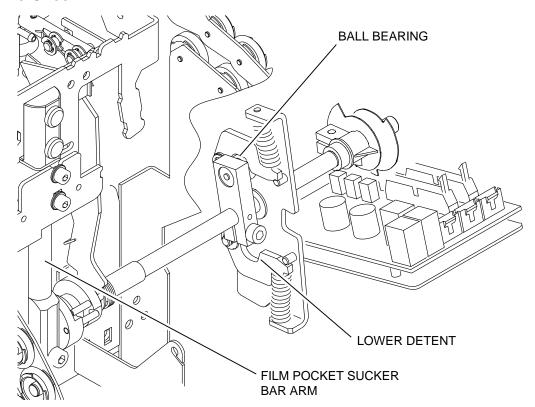
Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove the BACK PANEL.

Postrequisites: None

To Check:



H186_2042HCA H186_2042HC

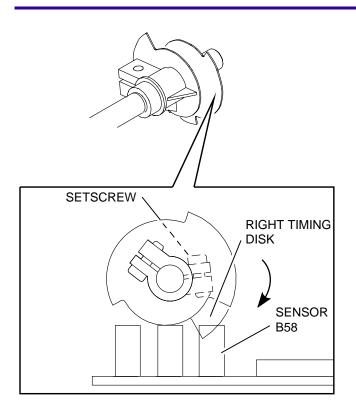
- [1] Remove all MAGAZINES.
- [2] Using the "SERVICE SOFTWARE":
 - (a) Move the FILM POCKET ASSEMBLY to LEVEL 3 by selecting "Move Only".
 - (b) From "Film Pick up Mag (M15)" select:
 - "Forward"
 - · "Backward"
- [3] Check:
 - FILM POCKET SUCKER BAR ARM reaches the fully lower position with minimum vibration
 - BALL BEARING is fully engaged in the LOWER DETENT

To Adjust:

- [1] Using the "SERVICE SOFTWARE", start the "Magazine Sensor Test".
- [2] Manually move the FILM POCKET SUCKER BAR ARM to the fully lower position.



The BALL BEARING must be fully engaged in the LOWER DETENT.



- [3] Loosen the SETSCREW.
- [4] Rotate the RIGHT TIMING DISK:
 - counterclockwise, as observed from the center of the MULTILOADER, until SENSOR B58 is indicated as "Off".
 - clockwise, as observed from the center of the MULTILOADER, until SENSOR B58 is indicated as "On" and stopping immediately when SENSOR B58 energizes.
- [5] Tighten the SETSCREW.

H186_2138GCA H186_2138GC

- [6] Using the "SERVICE SOFTWARE", select from "Film Pick up Mag (M15)":
 - "Forward"
 - · "Backward"
- [7] Did:
 - FILM POCKET SUCKER BAR ARM reach the full down position with minimum vibration?
 - BALL BEARING fully engaged in the LOWER DETENT?

Yes	No
Advance to Step 11.	Continue with <u>Step 8</u> .

- [8] Loosen the SETSCREW.
- [9] Rotate the RIGHT TIMING DISK:
 - · counterclockwise if the BALL BEARING is not fully engaged in the LOWER DETENT
 - clockwise if the BALL BEARING is fully engaged in the LOWER DETENT but has excessive vibration
- [10] Tighten the SETSCREW.
- [11] Exit the "SERVICE SOFTWARE".
- **[12]** Install:
 - MAGAZINES
 - BACK PANEL
- [13] Close the TOP COVER.

FILM POCKET CHAIN and SOLENOID Y14

Adjustment Specification

Purpose: To make the MAGAZINE SUCKER BARS parallel to the MAGAZINE.

Specification: The MAGAZINE SUCKER BARS are parallel to the MAGAZINE.

Special Tools: INSPECTION MIRROR TL-2753

Prerequisites: 1. Check that the MAGAZINE SUCKERS are installed correctly. See Page 108.

2. Level the MULTILOADER 7000.

3. Lift the TOP COVER.

4. Remove the BACK PANEL.

Postrequisites: None

To Check:

[1] See the adjustment procedure.

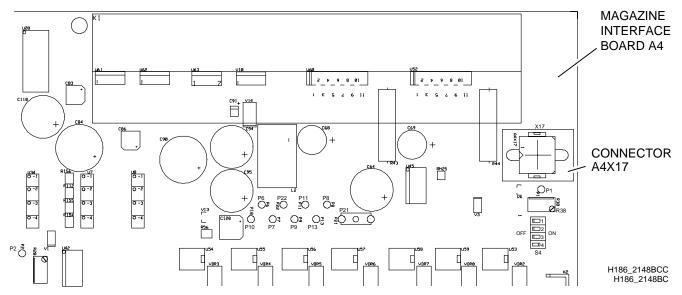
To Adjust:



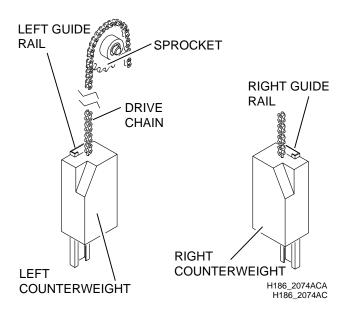
Warning

Dangerous Voltage

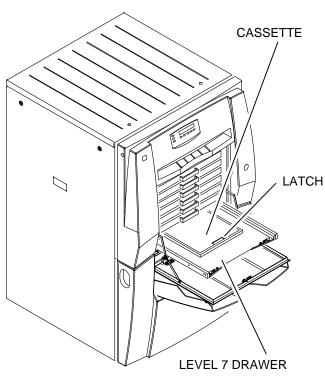
- [1] De-energize the MULTILOADER 7000.
- [2] Open the FILM CHUTE.
- [3] Remove the MAGAZINES.



[4] Disconnect the CONNECTOR A4X17 from the MAGAZINE INTERFACE BOARD A4.



- [5] Manually move the FILM POCKET ASSEMBLY to make the LEFT COUNTERWEIGHT the same height with the top of the LEFT GUIDE RAIL.
- [6] Check that the RIGHT COUNTERWEIGHT is also approximately the same height with the top of the RIGHT GUIDE RAIL.
- [7] If necessary, move the DRIVE CHAIN to the correct position on the SPROCKET to level the COUNTERWEIGHTS.



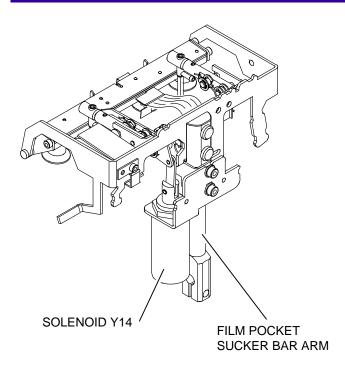
- [8] Carefully insert a CASSETTE with the LATCH toward the front of the MULTILOADER 7000 fully into the LEVEL 7 DRAWER.
- [9] Move the DRAWER fully toward the back of the MULTILOADER.



Dangerous Voltage

[10] Energize the MULTILOADER 7000.

H186_2135GCA H186_2135GC



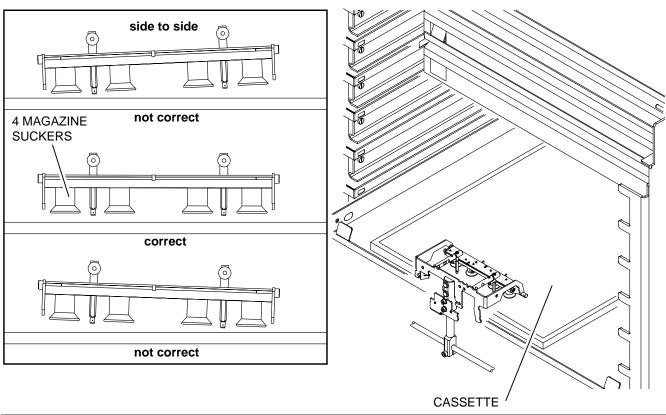
H186_2076GCB H186_2076GC

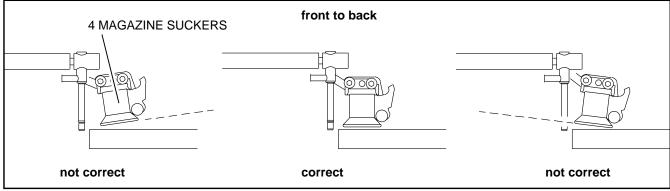


Warning

The SOLENOID Y14 is hot when energized too long.

- [11] Using the "SERVICE SOFTWARE", energize the SOLENOID Y14.
- [12] By hand, carefully:
 - move the DRAWERS for LEVELS 1 6 toward the front of the MULTILOADER
 - move the FILM POCKET ASSEMBLY up above LEVEL 7
 - rotate the FILM POCKET SUCKER BAR ARM into the full up position





H186_2092DCA H186_2092DC

[13] Slowly lower the FILM POCKET ASSEMBLY so the 4 MAGAZINE SUCKERS make minimum contact with the CASSETTE.



Important

You cannot do this adjustment if the FILM POCKET ASSEMBLY is bent. You must correct the bent ASSEMBLY or install a new ASSEMBLY.

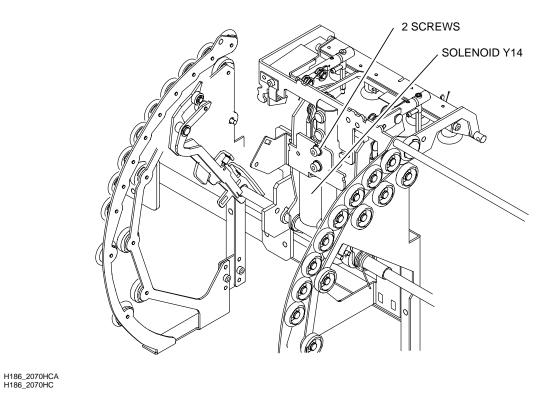
- [14] Check that the 4 MAGAZINE SUCKERS are parallel to the CASSETTE in the front to back and side to side directions. Use the INSPECTION MIRROR TL-2753.
- [15] Are the 4 MAGAZINE SUCKERS parallel side to side and front to back?

Yes	No - Side to Side	No - Front to Back
Advance to Step 19.	a. Do <u>Step 16</u> .	a. Do <u>Step 17</u> .
	b. Do Step 13 and Step 14 again.	b. Do Step 13 and Step 14 again.

CHAIN NUT

H186_2075GCA
H186_2075GCC

[16] If the 4 MAGAZINE SUCKERS are **not** parallel side to side, adjust the CHAIN NUT.



[17] If the 4 MAGAZINE SUCKERS are **not** parallel front to back:

- a. Loosen the 2 SCREWS.
- b. Move the SOLENOID Y14 up or down as necessary.
- c. Tighten the 2 SCREWS.



Warning

Dangerous Voltage [18] De-energize the MULTILOADER 7000.



Possible damage from electrostatic discharge.

- [19] Connect the CONNECTOR A4X17 to the MAGAZINE INTERFACE BOARD A4.
- [20] Remove the CASSETTE.
- [21] Install the MAGAZINES.
- [22] Close the FILM CHUTE.
- [23] Install the BACK PANEL.
- [24] Close the TOP COVER.

MAGAZINE SUCKER BAR ARM

Adjustment Specification

Purpose: To correctly position the MAGAZINE SUCKERS in the MAGAZINE when film is

transported.

Specification: MAGAZINE SUCKERS are 3 ± 0.5 mm (0.12 ± 0.02 in.) from the MAGAZINE WALL.

Special Tools: INSPECTION MIRROR TL-2753

6-INCH/150 MM ENGLISH/METRIC RULER TL-2762

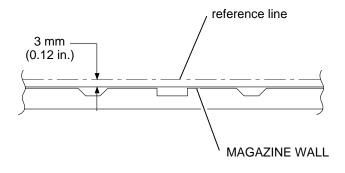
Prerequisites: 1. Check that the MAGAZINE SUCKERS are correctly installed. See Page 108.

2. Check that the following are correctly adjusted:

- FILM POCKET CHAIN and SOLENOID Y14 see Page 36
- LIFT TIMING DISK see Page 30
- RIGHT TIMING DISK see Page 33

Postrequisites: None

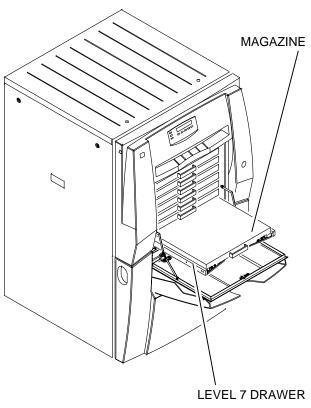
To Check:



- [1] Remove the LID from an empty MAGAZINE.
- [2] Draw a reference line 3 mm (0.12 in.) from the leading edge of a film. Use the 6-INCH/150 MM ENGLISH/METRIC RULER TL-2762.
- [3] Place the film into the empty MAGAZINE at the MAGAZINE WALL.
- [4] Use tape to fasten the film to the bottom of the MAGAZINE to prevent the film from moving.

H186 2073ACA H186_2073AC

5E9999 - 06DEC01 41



[5] Insert the MAGAZINE into the LEVEL 7 DRAWER.

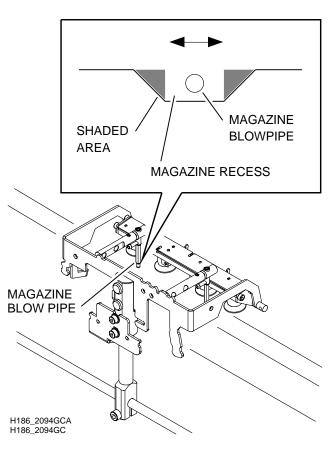
H186_2144GCA H186_2144GC



Warning

When you select "Pocket to Film (MAG)", the SOLENOID Y14 energizes. The SOLENOID is hot when energized too long.

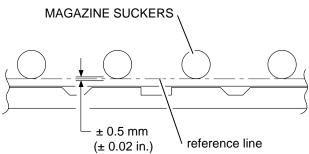
- [6] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test".
 - (b) On the "Magazine Film Pick Up" screen, from "Level 7", select "Move + Open".
 - (c) From "Film Pick Up Arm (M15)", select "Forward".
 - (d) From "Special Pos", select "Pocket to Film (MAG)".



[7] Check that the MAGAZINE BLOWPIPES are correctly positioned in the side to side direction.

Note

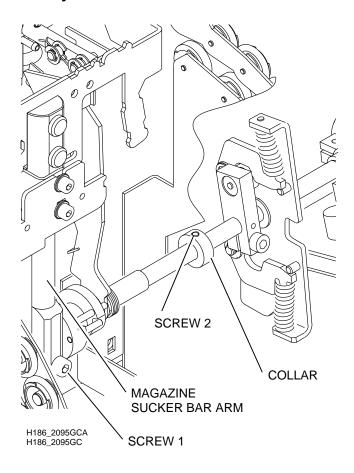
The MAGAZINE BLOWPIPES must not be in the SHADED AREA of the MAGAZINE RECESS.



[8] Check that the edge of the MAGAZINE SUCKERS are within \pm 0.5 mm (\pm 0.02 in.) of the reference line on the film. If necessary, use the INSPECTION MIRROR TL-2753.

H186_2139ACA H186_2139AC

To Adjust:



[1] From the "Magazine Film Pick Up" screen in the "SERVICE SOFTWARE", select "Raise Pocket Out" under "Special Pos".



Important

Loosen the SCREW 1 a small quantity to prevent the MAGAZINE SUCKER BAR ARM from falling, but allowing it to move freely.

- [2] Loosen the SCREW 1 and SCREW 2.
- [3] Move the MAGAZINE SUCKER BAR ARM:
 - left or right to center the MAGAZINE BLOWPIPE.
 - forward or backward to place the MAGAZINE SUCKERS on the 3 mm (0.12 in.) reference line on the film.



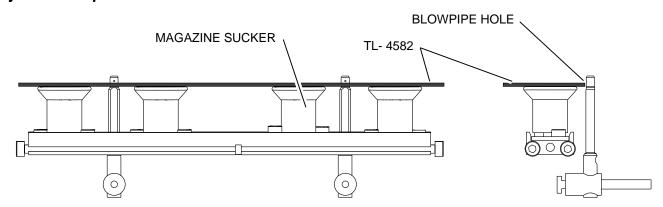
Important

The SCREW 1 must be tight.

- [4] Tighten the SCREW 1.
- [5] Move the COLLAR fully to the left.
- [6] Tighten the SCREW 2.
- [7] Do <u>Step 6</u> <u>Step 8</u> in the "To Check" procedure again.

MAGAZINE BLOWPIPES - Height

Adjustment Specification



H186_2096BCA H186_2096BC

Purpose: To correctly place the MAGAZINE BLOWPIPE to allow the films in the MAGAZINE to

separate.

Specification: The BLOWPIPE HOLE is above the MAGAZINE BLOWPIPE POSITIONING TOOL

TL-4582.

Special Tools: MAGAZINE BLOWPIPE POSITIONING TOOL TL-4582

Prerequisites:

1. Check that the MAGAZINE SUCKERS are correctly installed. See Page 108.

2. Remove the BACK PANEL.

3. Open the FILM CHUTE.

Postrequisites: None

To Check:

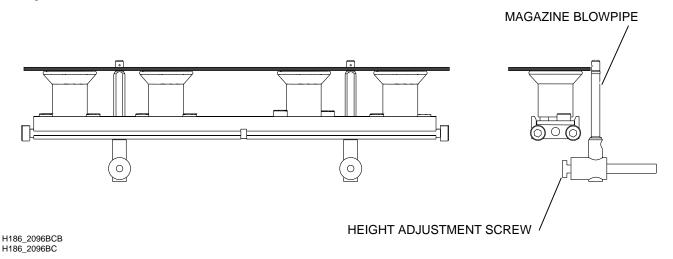


Warning

The SOLENOID Y14 is hot when energized too long.

- [1] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test".
 - **(b)** On the "Magazine Film Pick Up" screen, select:
 - "On" from "Compressor (M16)"
 - "On" from "Magazine Sucking Y12"
 - "On" from "Mag Sucker Bar Tilt Y14"
- [2] Place the MAGAZINE BLOWPIPE POSITIONING TOOL TL-4582 on the MAGAZINE SUCKERS.
- [3] If necessary, press down to make a vacuum.
- [4] Check that the BLOWPIPE HOLE is above the MAGAZINE BLOWPIPE POSITIONING TOOL TL-4582. See the graphic.

To Adjust:



- [1] Loosen the HEIGHT ADJUSTMENT SCREW.
- [2] Move the MAGAZINE BLOWPIPES up or down.
- [3] Tighten the HEIGHT ADJUSTMENT SCREW.
- [4] Using the "SERVICE SOFTWARE", on the "Magazine Film Pick Up" screen, select:
 - "Off" from "Compressor (M16)"
 - "Off" from "Magazine Sucking (Y12)"
 - "Off" from "Mag Sucker Bar Tilt (Y14)"
- [5] Close the FILM CHUTE.
- [6] Install the BACK PANEL.

MAGAZINE FILM PIN ACTUATOR

Adjustment Specification

Purpose: • To correctly actuate SENSOR B61.

• To prevent artifacts from the MAGAZINE SUCKERS.

To allow the MAGAZINE SUCKERS to correctly transport film from the MAGAZINE.

Specification: SENSOR B61 actuates after the MAGAZINE BLOWPIPE POSITIONING TOOL moves

approximately 0.2 - 0.5 mm (0.008 - 0.02 in.).

Special Tools: None

Prerequisites:

1. Check that the MAGAZINE SUCKERS are correctly installed. See Page 108.

2. Lift the TOP COVER.

3. Remove the BACK PANEL.

4. Open the FILM CHUTE.

Postrequisites: Using the "SERVICE SOFTWARE", check that the "Additional Steps Parameter" is correctly

set.

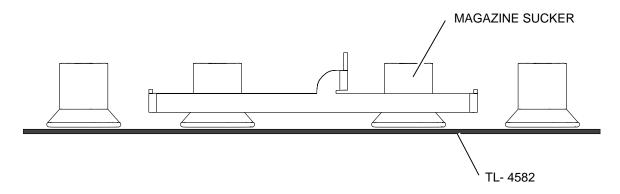
To Check:



Warning

The SOLENOID Y14 is hot when energized too long.

- [1] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test".
 - **(b)** On the "Magazine Film Pick Up" screen, select:
 - "Backward" from "Film Pick Up Arm (M15)"
 - "On" from "Mag Sucker Bar Tilt (Y14)"
 - (c) From the "Component Test" screen, select "Magazine Sensor Test".



H186_2098BCA H186_2098BC

[2] Place the MAGAZINE BLOWPIPE POSITIONING TOOL TL-4582 on the MAGAZINE SUCKERS.



Important

Minimum pressure on the TOOL TL-4582 should not actuate SENSOR B61, but medium pressure should.

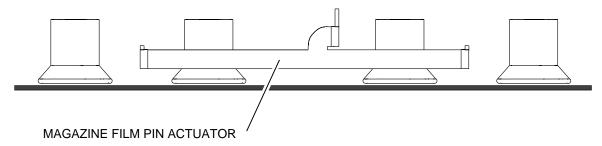
- [3] Press down on the MAGAZINE BLOWPIPE POSITIONING TOOL.
- [4] Using the "SERVICE SOFTWARE", check that SENSOR B61 actuates after the MAGAZINE BLOWPIPE POSITIONING TOOL moves approximately 0.2 - 0.5 mm (0.008 - 0.02 in.).



The specification is an approximate measurement and used as a reference only.

5E9999 - 06DEC01 47

To Adjust:



H186_2098BCB H186_2098BC

- [1] Bend the MAGAZINE FILM PIN ACTUATOR.
- [2] Do Step 4 of the "To Check" procedure again.
- [3] If the correct specification cannot be obtained after doing this adjustment procedure, or if the MAGAZINE FILM PIN ACTUATOR is excessively bent, install a new MAGAZINE FILM PIN ACTUATOR.
- [4] Close the FILM CHUTE.
- [5] Install the BACK PANEL.
- [6] Close the TOP COVER.

MAGAZINE BLOWPIPES - Front to Back Position

Adjustment Specification

Purpose: To make the MAGAZINE BLOWPIPES be in the correct position when inserting film into the

CASSETTE.

Specification: The MAGAZINE BLOWPIPES should be:

· above or in front of the LIGHT LOCK

within the MAGAZINE RECESS

Special Tools: None

Prerequisites: 1. Check the adjustment of the MAGAZINE SUCKER BAR ARM. See Page 41.

2. Lift the TOP COVER.

3. Remove:

BACK PANEL

• right SIDE PANEL

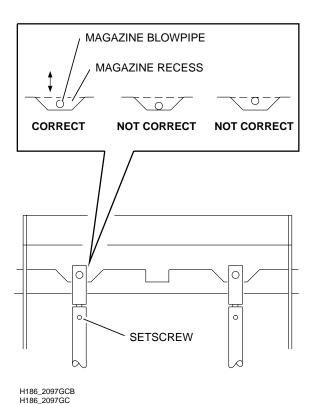
Postrequisites: None

To Check:

[1] See the adjustment procedure.

To Adjust:

- [1] Using the "SERVICE SOFTWARE", select "Step by Step Mode".
- [2] Insert a CASSETTE with film.
- [3] Using the "SERVICE SOFTWARE", select "Next Step" again and again to operate the MULTILOADER 7000 through the cycle until the MAGAZINE SUCKER BAR moves into the MAGAZINE.

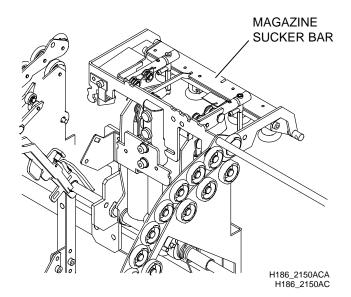


[4] Is the MAGAZINE BLOWPIPE correctly positioned in the MAGAZINE RECESS?

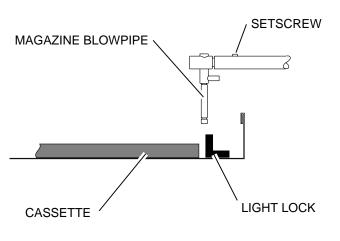


The MAGAZINE BLOWPIPE should not be touching the film or the MAGAZINE.

Yes	No
Advance to Step 9.	a. Loosen the SETSCREW.
	b. Adjust the MAGAZINE BLOWPIPE.
	c. Advance to Step 9.



[5] Using the "SERVICE SOFTWARE", select "Next Step" again and again to operate the MULTILOADER 7000 through the cycle until the MAGAZINE SUCKER BAR moves into the CASSETTE.



H186_2141ACA H186_2141AC [6] Is the MAGAZINE BLOWPIPE directly on top of the LIGHT LOCK or toward the front of the MULTILOADER?

Yes	No
Advance to Step 11.	Do <u>Step 7</u> - <u>Step 10</u> .

- [7] Loosen the SETSCREW.
- [8] Move the MAGAZINE BLOWPIPE toward the front or back as necessary.
- [9] Using the "SERVICE SOFTWARE", select "Exit This Mode".
- [10] Do <u>Step 1</u> <u>Step 4</u> again.
- [11] Exit the "SERVICE SOFTWARE".
- [12] Install:
 - BACK PANEL
 - right SIDE PANEL
- [13] Close the TOP COVER.

FILM POCKET CASSETTE LEVEL and LOWER POCKET PARAMETER

Adjustment Specification

Purpose: To make the MAGAZINE SUCKERS and MAGAZINE BLOWPIPES be in the correct

position when inserting film into the CASSETTE.

Specification: • FILM POCKET CASSETTE LEVEL = 1 - 6 mm (0.04 - 0.24 in.)

• LOWER POCKET PARAMETER = BLOWPIPE touches the LIGHT LOCK

Special Tools: None

Prerequisites: 1. Check the adjustment of the MAGAZINE BLOWPIPES - Height. See Page 45.

2. Lift the TOP COVER.

3. Remove:

BACK PANEL

right SIDE PANEL

Postrequisites: None

To Check:

[1] See the adjustment procedure.

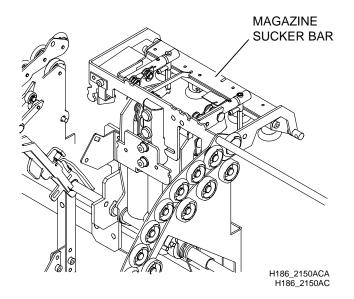
To Adjust:

- [1] Using the "SERVICE SOFTWARE", select "Step by Step Mode".
- [2] Check if the customer uses either a *Kodak X-Omatic* CASSETTE, a Kodak X-Omatic VIDEO FILM HOLDER, or both.

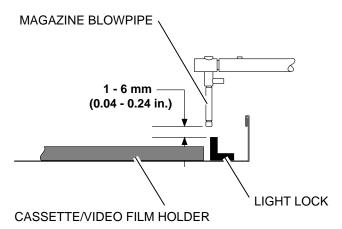


Important

- If the customer uses a VIDEO FILM HOLDER, you must use a VIDEO FILM HOLDER for this adjustment procedure because the LIGHT LOCK on the VIDEO FILM HOLDER is higher.
- If the customer uses **both** a CASSETTE and a VIDEO FILM HOLDER, you must use a VIDEO FILM HOLDER for this adjustment procedure.
- [3] Insert either a Kodak X-Omatic CASSETTE with film or a Kodak X-Omatic VIDEO FILM HOLDER.
- [4] Using the "SERVICE SOFTWARE", select "Next Step" again and again to operate the MULTILOADER 7000 through the cycle until the MAGAZINE SUCKER BAR moves into the CASSETTE or the VIDEO FILM HOLDER.



[5] Check that the MAGAZINE SUCKER BAR and the MULTILOADER 7000 have no contact when the MAGAZINE SUCKER BAR moves into the CASSETTE or the VIDEO FILM HOLDER.



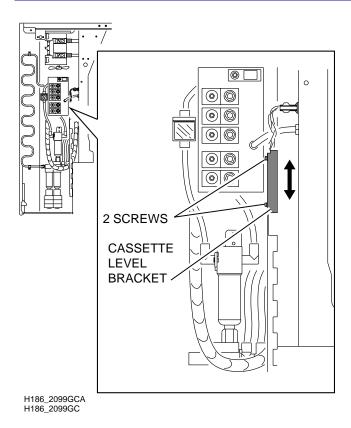
and the MAGAZINE BLOWPIPES. The specification is 1 - 6 mm (0.04 - 0.24 in.).

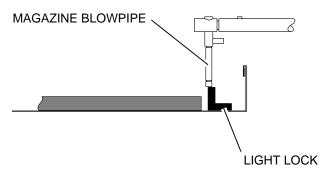
[7] Is the distance correct?

Yes	No
Advance to Step 11.	Continue with <u>Step 8</u> .

[6] Measure the distance between the LIGHT LOCK

H186_2153ACA H186_2153AC





H186_2142ACA H186_2142AC

[8] If the distance measured in <u>Step 6</u> is:

Too Large	Too Small
a. Loosen the 2 SCREWS.	a. Loosen the 2 SCREWS.
b. Lower the CASSETTE LEVEL BRACKET the quantity of the difference.	b. Move the CASSETTE LEVEL BRACKET up the quantity of the difference.

- [9] Using the "SERVICE SOFTWARE",
 - select "Exit This Mode" to exit "Step by Step Mode"
 - do a "Scan Run"
- [10] Do <u>Step 1</u> <u>Step 7</u> again.
- [11] Using the "SERVICE SOFTWARE", select "Next Step" 1 more time.

Note

The film falls, and the FILM POCKET ASSEMBLY moves down the distance determined by the LOWER POCKET PARAMETER.

[12] Check that the MAGAZINE BLOWPIPE touches the LIGHT LOCK with minimum pressure.

Yes	No
Advance to Step 16.	Continue with <u>Step 13</u> .

- [13] Using the "SERVICE SOFTWARE", press [Esc] to exit the "Step by Step Mode".
- [14] Using the "SERVICE SOFTWARE", change the LOWER POCKET PARAMETER:
 - if the MAGAZINE BLOWPIPE does not touch the LIGHT LOCK, increase the parameter
 - if the MAGAZINE BLOWPIPE touches the LIGHT LOCK with maximum pressure, decrease the parameter

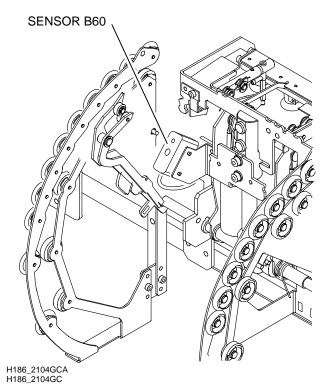
Note

1 step = 0.09 mm (0.004 in.)

- [15] Do <u>Step 1</u> <u>Step 12</u> again.
- [16] Exit the "SERVICE SOFTWARE".
- [17] Install:
 - BACK PANEL
 - right SIDE PANEL
- [18] Close the TOP COVER.

SENSOR B60

Adjustment Specification



Purpose: To recognize when a MAGAZINE is empty after the last film is removed.

Specification: The SENSOR B60 detects the REFLECTIVE STICKER located in the bottom of the

MAGAZINE.

Special Tools: None

Prerequisites: 1. Remove BACK PANEL.

2. Open the FILM CHUTE.

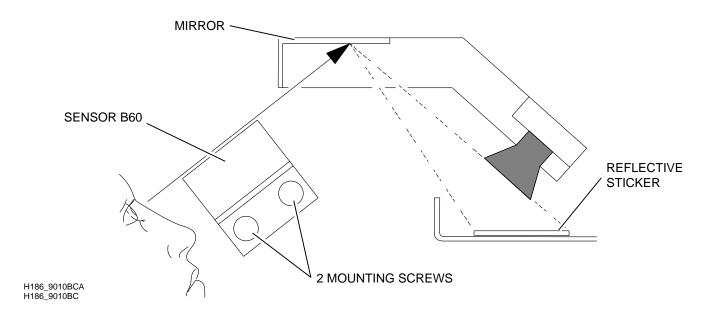
Postrequisites: The SENSOR B60 operates correctly when the MAGAZINE is empty.

To Check:

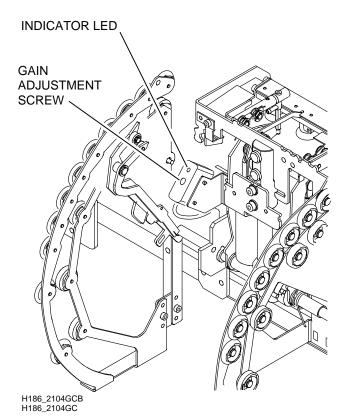
[1] Check that the SENSOR B60 is operating correctly when the MAGAZINE is empty.

To Adjust:

- [1] Insert an empty MAGAZINE into LEVEL 1.
- [2] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test".
 - (b) On the "Magazine Film Pick Up" screen, from "Level 1", select "Move + Open".
 - (c) From "Film Pick Up Arm (M15)", select "Forward".



- [3] View across the SENSOR B60, then to the MIRROR and the REFLECTIVE STICKER.
- [4] If the REFLECTIVE STICKER is not visible:
 - (a) Loosen the 2 MOUNTING SCREWS.
 - (b) Move the SENSOR B60 up or down until the REFLECTIVE STICKER is visible.
 - **(c)** If necessary, adjust the position of the MIRROR.
 - (d) Tighten the 2 MOUNTING SCREWS.
- [5] Using the "SERVICE SOFTWARE from "Component Test", select the "Magazine Sensor Test".



*

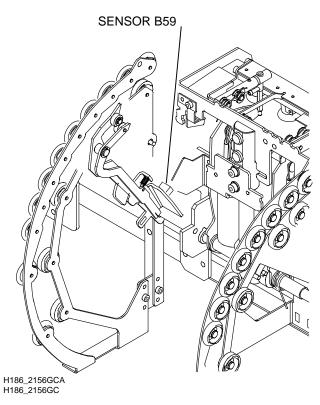
Important

Do not set the GAIN ADJUSTMENT SCREW too high. A false detection can occur.

- [6] Rotate the GAIN ADJUSTMENT SCREW:
 - counterclockwise until the INDICATOR LED is red
 - approximately 20 30 degrees clockwise until the INDICATOR LED is blinking green
- [7] Exit the "SERVICE SOFTWARE".
- [8] Close the FILM CHUTE.
- [9] Install the BACK PANEL.

SENSOR B59

Adjustment Specification



Purpose: To check that only 1 sheet of film is removed from the MAGAZINE.

Specification: • No film = > 3.5 V DC

• 1 film = < 0.5 V DC

• 2 or more films = > 3.5 V DC

Special Tools: DIGITAL MULTIMETER TL-3386
Prerequisites: 1. Remove the BACK PANEL.

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2. Open the FILM CHUTE.

Postrequisites: Check the correct operation of the SENSOR B59.

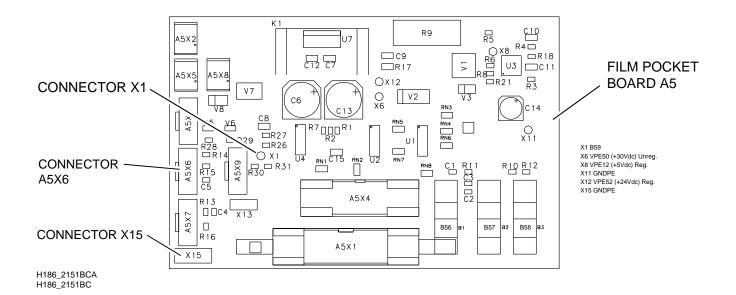
To Check:

[1] See the adjustment procedure.

To Adjust:



Possible damage from electrostatic discharge.

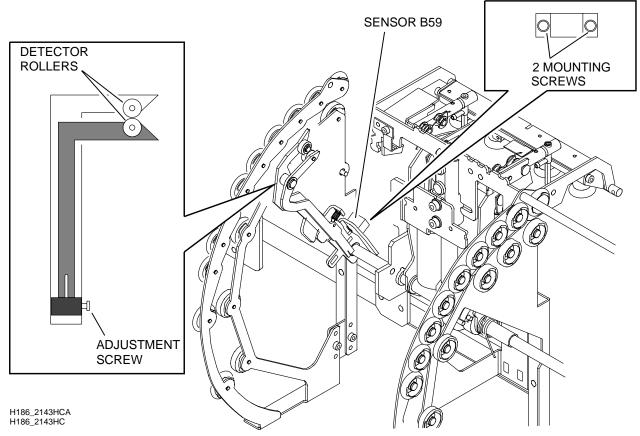




Important

Some FILM POCKET BOARDS A5 do not have the CONNECTOR X1.

- [1] Connect the DIGITAL MULTIMETER TL-3386 to the following CONNECTORS on the FILM POCKET BOARD A5:
 - X15 GND
 - X1 or A5X6 PIN 4





Important

If you do any of the following adjustments to obtain the correct voltages, you must check all specifications again.

- [2] Place 1 sheet of film between the 2 DETECTOR ROLLERS.
- [3] Is the voltage < 0.5 V DC?

Yes	No
Advance to Step 7.	Continue with <u>Step 4</u> .

- [4] Loosen the 2 MOUNTING SCREWS on the SENSOR B59.
- [5] Rotate the ADJUSTMENT SCREW until the correct voltage is obtained.
- [6] Tighten the 2 MOUNTING SCREWS.
- [7] Place 2 sheets of film between the 2 DETECTOR ROLLERS.
- [8] Is the voltage > 3.5 V DC?

Yes	No
Continue with Step 9.	Do Step 4 - Step 6 again.
	Continue with <u>Step 9</u> .

- [9] With the 2 films between the DETECTOR ROLLERS, move the DETECTOR ROLLERS to the right and left sides.
- [10] Does the voltage remain > 3.5 V DC?

Yes	No
	Do <u>Step 4</u> - <u>Step 6</u> again. Continue with <u>Step 11</u> .

[11] Remove both films.

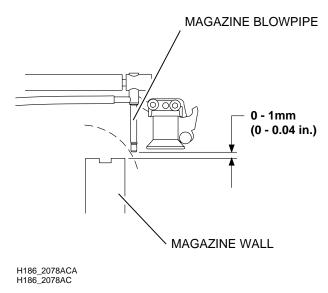
[12] Is the voltage > 3.5 V DC?

Yes	No
	Do <u>Step 4</u> - <u>Step 6</u> again. Continue with <u>Step 13</u> .

- [13] Close the FILM CHUTE.
- [14] Install the BACK PANEL.

MAGAZINE LEVELS

Adjustment Specification



Purpose: To allow the FILM POCKET SUCKER BAR to rotate freely into the MAGAZINE.

Specification: The distance between the MAGAZINE BLOWPIPES and the MAGAZINE WALL is 0 - 1 mm

(0 - 0.04 in.).

Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove the BACK PANEL.

3. Do the adjustment for the MAGAZINE BLOWPIPES - Height. See Page 45.

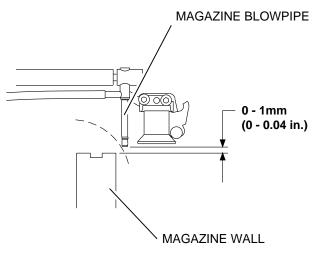
Postrequisites: None

To Check:

[1] See the adjustment procedure.

To Adjust:

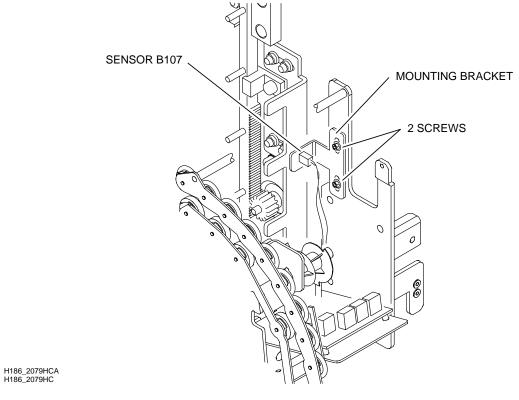
- [1] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test" to display the "Magazine Film Pick Up" screen.
 - **(b)** From "Level 3", or any other "Level", select "Move + Open".
 - (c) From "Film Pick Up Arm (M15)", select "Forward".



- [2] Check for a 0 1 mm (0 0.04 in.) distance between the MAGAZINE BLOWPIPE and the MAGAZINE WALL.
- [3] Is the distance 0 1 mm (0 0.04 in.)?

Yes	No
Advance to Step 7.	Do <u>Step 4</u> - <u>Step 6</u> .

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- [4] Adjust the SENSOR B107:
 - (a) Loosen the 2 SCREWS.
 - **(b)** Adjust the MOUNTING BRACKET up to increase, or down to decrease the distance.
 - (c) Tighten the 2 SCREWS.
- [5] On the "Magazine Film Pick Up" screen under "Special Pos", select:
 - "Pocket To Film (MAG)"
 - "Raise Pocket Out"
- [6] Do Step 2 and Step 3 again.
- [7] Exit the "SERVICE SOFTWARE".
- [8] Install the BACK PANEL.
- [9] Close the TOP COVER.

MAGAZINE TRANSPORT MECHANISM

Adjustment Specification

Purpose: To allow for correct film transfer.

Specification: • Back Position = 1 ± 0.5 mm $(0.04\pm 0.02$ in.) distance between the INNER BRASS RING

and the MAGNET PLATE MOUNTING ASSEMBLY

• Home Position = 0.5 ± 0.5 mm (0.02 ± 0.02 in.) distance between the

ELECTROMAGNETS and the MAGNET PLATES

Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove left SIDE PANEL.

3. Do the adjustment for the MAGAZINE DOOR LOCKING MECHANISM. See Page 27.

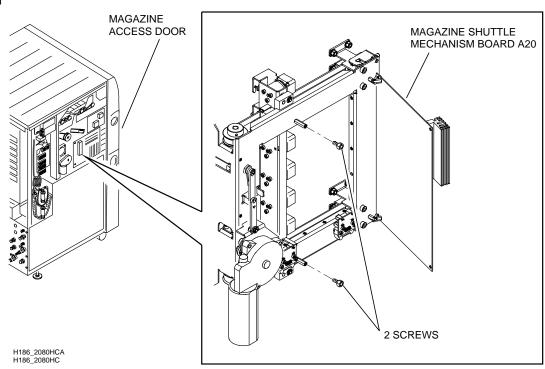
Postrequisites: Check for correct film transfer from all MAGAZINE LEVELS.

To Check:

[1] Check for correct film transfer from the MAGAZINE.

To Adjust:

Back Position





The MAGAZINE ACCESS DOOR must be closed.

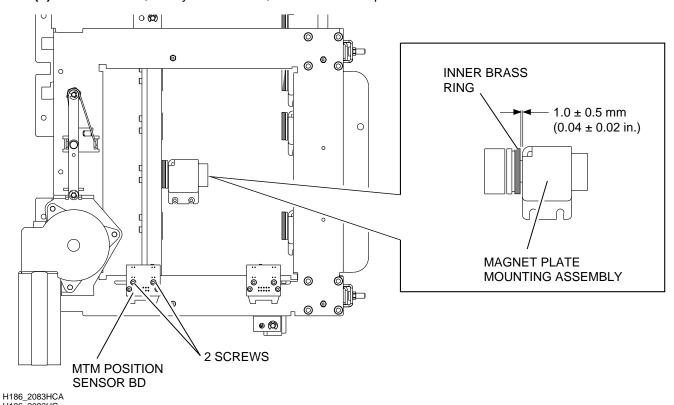
[1] Remove the 2 SCREWS.



Possible damage from electrostatic discharge.

[2] Open the MAGAZINE SHUTTLE MECHANISM BOARD A20.

- [3] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test" to display the "Magazine Film Pick Up" screen.
 - (b) From "Level 4", or any other "Level", select "Move + Open".



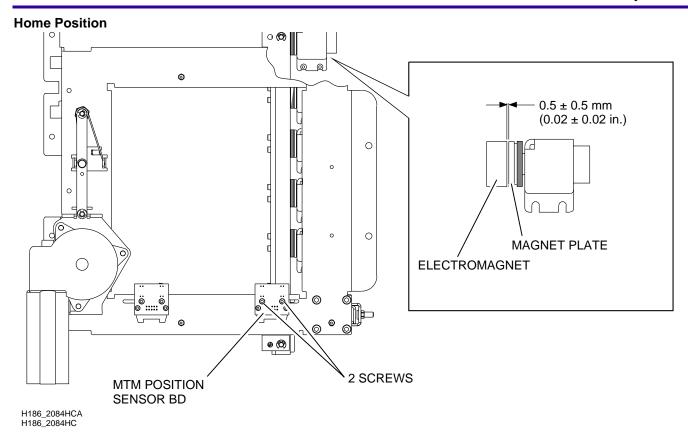
- [4] Measure the distance between the INNER BRASS RING and the MAGNET PLATE MOUNTING ASSEMBLY.
- [5] Is the distance 1 ± 0.5 mm $(0.04 \pm 0.02$ in.)?

Yes	No
Advance to Step 10.	Do <u>Step 6</u> - <u>Step 9</u> .



Possible damage from electrostatic discharge.

- [6] Loosen the 2 SCREWS.
- [7] Move the MTM POSITION SENSOR BOARD to the right or left.
- [8] Using the "SERVICE SOFTWARE", select:
 - (a) "Component Test" to display the "Magazine Film Pick Up" screen
 - (b) "Close Magazines"
 - (c) "Move + Open" from "Level 4"
- [9] Do <u>Step 5</u> again.



- [10] Using the "SERVICE SOFTWARE", select:
 - (a) "Component Test" to display the "Magazine Film Pick Up" screen
 - (b) "Close Magazines"



Important

The MAGNET PLATES must not be compressed when the ELECTROMAGNETS reach the home position.

- [11] Measure the distance between the ELECTROMAGNETS and the MAGNET PLATES.
- [12] Is the distance 0.5 ± 0.5 mm $(0.02 \pm 0.02$ in.)?

Yes	No
Advance to Step 17.	Do <u>Step 13</u> - <u>Step 16</u> .

- [13] Loosen the 2 SCREWS.
- [14] Move the MTM POSITION SENSOR BOARD to the right or left.
- [15] Using the "SERVICE SOFTWARE", select:
 - (a) "Component Test" to display the "Magazine Film Pick Up" screen
 - (b) "Level 4", "Move + Open"
 - (c) "Close Magazines"
- [16] Do <u>Step 12</u> again.
- [17] Exit the "SERVICE SOFTWARE".
- [18] Close the MAGAZINE SHUTTLE MECHANISM BOARD A20.
- [19] Install:
 - 2 SCREWS
 - left SIDE PANEL
- [20] Close the TOP COVER.

FILM POCKET STEPPER MOTOR M10

Adjustment Specification

Purpose: To check that the phase current is set to the correct value for correct operation.

Specification: 400 mV DC \pm 5 mV DC at P1 and P21 GND with the FILM POCKET STEPPER MOTOR

energized.

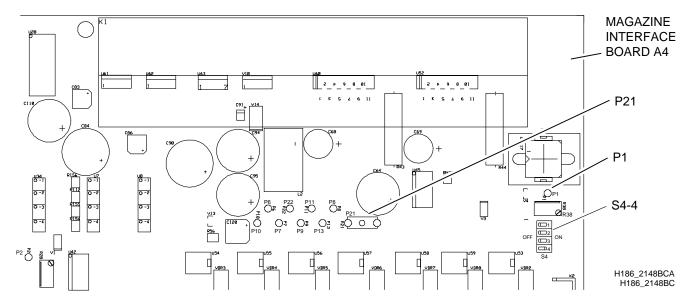
Special Tools: None

Prerequisites: 1. Lift the TOP COVER.

2. Remove the right SIDE PANEL.

Postrequisites: None

To Check:

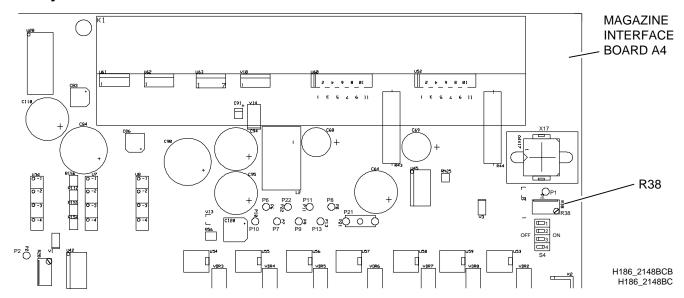




Possible damage from electrostatic discharge.

- [1] On the MAGAZINE INTERFACE BOARD A4:
 - move the DIP SWITCH S4-4 to the "ON" position
 - connect the DIGITAL VOLTMETER (DMV) to P21 GND and P1
- [2] Using the "SERVICE SOFTWARE":
 - (a) Select "Change Parameter".
 - (b) Do a "Scan Run".
- [3] Check for a voltage of 400 mV DC \pm 5 mV DC at P1 and P21 GND with the FILM POCKET STEPPER MOTOR energized.

To Adjust:



- [1] On the MAGAZINE INTERFACE BOARD A4, adjust R38 to 400 mV DC \pm 5 mV DC with the FILM POCKET STEPPER MOTOR energized.
- [2] Exit the "SERVICE SOFTWARE".
- [3] Move the DIP SWITCH S4-4 to the "OFF" position on the MAGAZINE INTERFACE BOARD A4.
- [4] Install the right SIDE PANEL.
- [5] Close the TOP COVER.

ENTRANCE FLAP - FILM CHUTE

Adjustment Specification

Purpose: To make the FILM CHUTE protected from light after the ENTRANCE FLAP is closed.

Specification: The PLUSH STRIP and the ENTRANCE FLAP make contact when closed.

Special Tools: None

Prerequisites: 1. Remove the BACK PANEL.

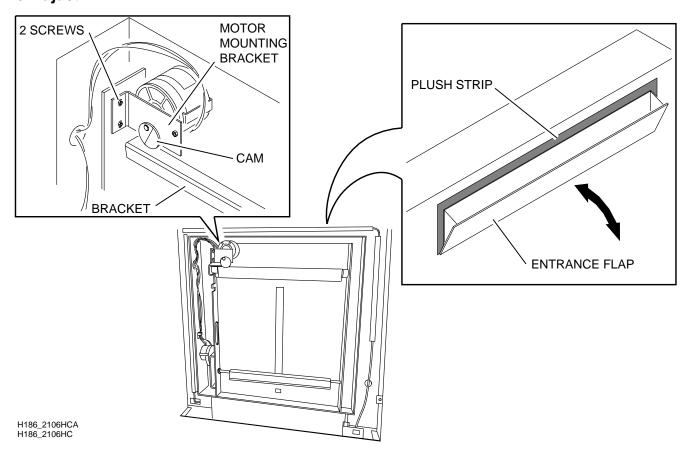
2. Open the FILM CHUTE.

Postrequisites: Do the adjustment procedure for SENSOR B33. See <u>Page 67</u>.

To Check:

[1] See the adjustment procedure.

To Adjust:



[1] Manually rotate the CAM clockwise until the BRACKET is in the lowest position.



Important

Only minimum movement of the MOTOR MOUNTING BRACKET should be observed during normal operation.

[2] Does the ENTRANCE FLAP make minimum contact with the PLUSH STRIP?

Yes	No
Advance to Step 6.	• Continue with <u>Step 3</u> - <u>Step 5</u> .
	 Do <u>Step 1</u> and <u>Step 2</u> again.

- [3] Loosen the 2 SCREWS.
- [4] Move the MOTOR MOUNTING BRACKET down until the ENTRANCE FLAP makes minimum contact with the PLUSH STRIP.
- [5] Tighten the 2 SCREWS.
- [6] Close the FILM CHUTE.
- [7] Install the BACK PANEL.

SENSOR B33

Adjustment Specification

Purpose: To stop the ENTRANCE FLAP MOTOR M11 when the ENTRANCE FLAP is closed.

Specification: None **Special Tools:** None

Prerequisites: 1. Remove the BACK PANEL.

2. Open the FILM CHUTE.

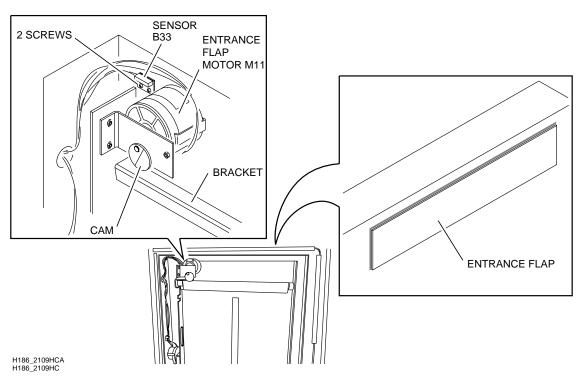
3. Do the adjustment procedure for the ENTRANCE FLAP - FILM CHUTE. See Page 65.

Postrequisites: None

To Check:

[1] See the adjustment procedure.

To Adjust:



- [1] Using the "SERVICE SOFTWARE", select:
 - "Component Test"
 - "Magazine Sensor Test"
- [2] Manually rotate the CAM clockwise until the BRACKET is in the lowest position.
- [3] Using the "SERVICE SOFTWARE", does the SENSOR B33 change from "Off" to "On" at the same time that the CAM moves the BRACKET to the lowest position?

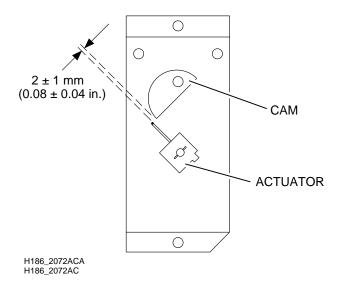
Yes	No
Advance to Step 6.	a. Continue with <u>Step 4</u> - <u>Step 5</u> .
	b. Do <u>Step 2</u> again.

- [4] Loosen the 2 SCREWS.
- [5] Adjust the SENSOR B33 up or down as necessary.

- [6] Exit the "SERVICE SOFTWARE".
- [7] Close the FILM CHUTE.
- [8] Install the BACK PANEL.

FILM RELEASE FLAP

Adjustment Specification



Purpose: To hold the film until it can be transported to the PROCESSOR.

Specification: The distance between the CAM and the ACTUATOR is 2 ± 1 mm (0.08 \pm 0.04 in.).

Special Tools: None

Prerequisites: 1. Remove the BACK PANEL.

2. Open the FILM CHUTE.

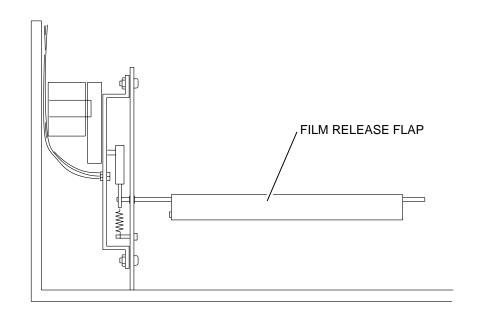
Postrequisites: Check for correct film transport to the PROCESSOR.

To Check:

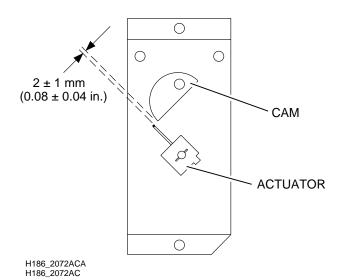
[1] See the adjustment procedure.

To Adjust:

- [1] Using the "SERVICE SOFTWARE", select:
 - · "Component Test"
 - "Film Interface Motors"
 - "On" from "Chute Release (M12)"
 - "Off" from "Chute Release (M12)" after 1 rotation of the CAM

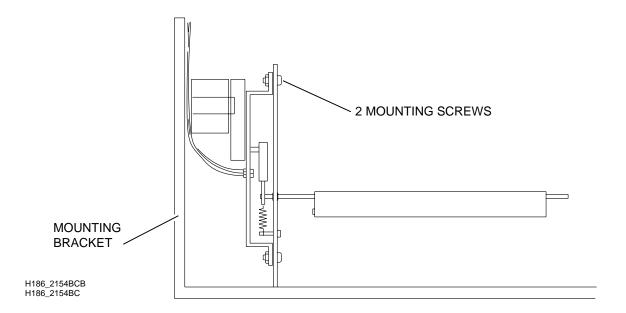


H186_2154BCA H186_2154BC



- [2] Manually press the FILM RELEASE FLAP to close it fully.
- [3] Is the distance between the CAM and the ACTUATOR 2 \pm 1 mm (0.08 \pm 0.04 in.)?

Yes	No
Advance to Step 7.	a. Continue with <u>Step 4</u> - <u>Step 6</u> .
	b. Do <u>Step 1</u> - <u>Step 3</u> again.



- [4] Loosen the 2 MOUNTING SCREWS.
- [5] Adjust the MOUNTING BRACKET up or down as necessary.
- [6] Tighten the 2 MOUNTING SCREWS.
- [7] Exit the "SERVICE SOFTWARE".
- [8] Close the FILM CHUTE.
- [9] Install the BACK PANEL.

PROCESSOR INTERFACE MOTOR M13

Adjustment Specification

Purpose: To adjust the phase current to the correct value for reliable operation.

Specification: Voltage is 1.8 V DC \pm 23 mV DC between P21 and P2 on the MAGAZINE INTERFACE

BOARD A4.

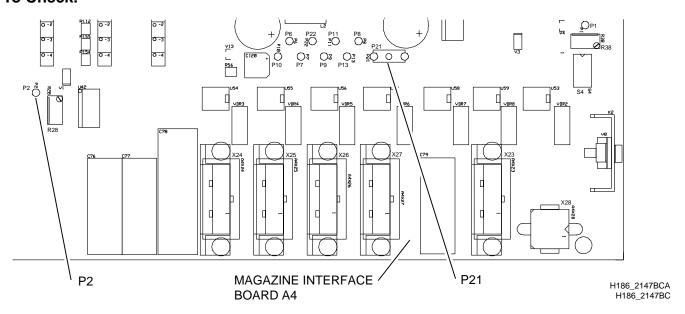
Special Tools: DIGITAL MULTIMETER TL-3386

Prerequisites: 1. Lift the TOP COVER.

2. Remove the right SIDE PANEL.

Postrequisites: None

To Check:

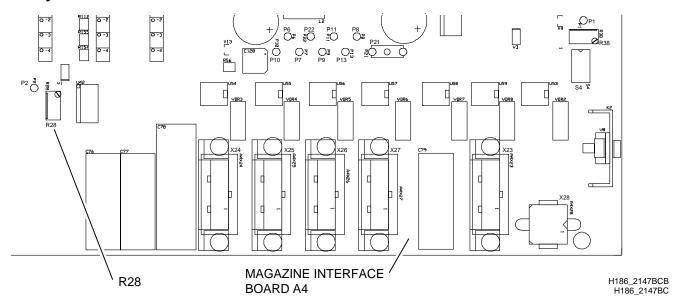




Possible damage from electrostatic discharge.

- [1] On the MAGAZINE INTERFACE BOARD A4, connect the DIGITAL MULTIMETER TL-3386:
 - P21 GND
 - P2
- [2] Using the "SERVICE SOFTWARE", energize the PROCESSOR INTERFACE MOTOR M13. Select:
 - "Component Test".
 - "On" from "Interface Motor (M13)"
- [3] Check for a voltage of 1.8 V DC \pm 23 mV DC.

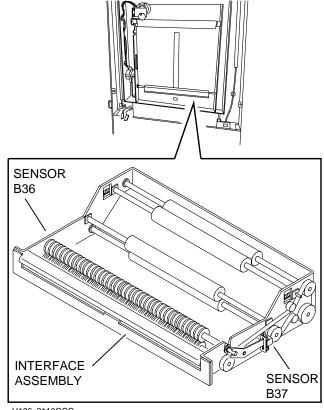
To Adjust:



- [1] On the MAGAZINE INTERFACE BOARD A4, adjust R28 to 1.8 V DC $\pm\,23$ mV DC.
- [2] Exit the "SERVICE SOFTWARE".
- [3] Install the right SIDE PANEL.
- [4] Close the TOP COVER.

SENSORS B36 and B37

Adjustment Specification



H186_2110GCC H186_2110GC

Purpose: To detect film entering and exiting the INTERFACE ASSEMBLY.

Specification: The SENSORS B36 and B37 are operating correctly to detect film.

Special Tools: None

Prerequisites: 1. Remove the BACK PANEL.

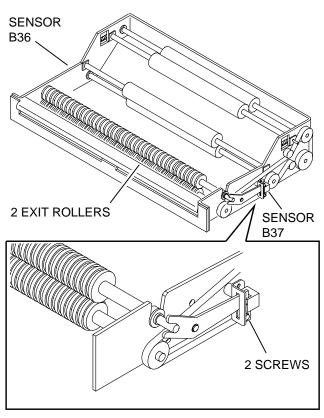
2. Open the FILM CHUTE.

Postrequisites: Do test cycles with different sizes of CASSETTES.

To Check:

[1] See the adjustment procedure.

To Adjust:



- [1] Using the "SERVICE SOFTWARE", select:
 - · "Component Test"
 - "Magazine Sensor Test"
- [2] Manually rotate the 2 EXIT ROLLERS 1 complete rotation with **no** film.
- [3] Using the "SERVICE SOFTWARE", did the status for SENSOR B36 and B37 remain "On"?

Yes	No
Advance to Step 7.	• Continue with <u>Step 4</u> - <u>Step 6</u> .
	 Do <u>Step 2</u> and <u>Step 3</u> again.

- [4] Loosen the 2 SCREWS.
- [5] Adjust either SENSOR B36 or B37 up or down as necessary to obtain the correct status.
- [6] Tighten the 2 SCREWS.

H186_2111GCA H186_2111GC

- [7] For the SENSOR B36, insert in the **center** between the 2 EXIT ROLLERS, a sheet of film 10 cm (3.94 in.) wide and approximately 8 mm (0.32 in.) long.
- [8] Manually rotate the 2 EXIT ROLLERS 1 complete rotation with the film in the center.
- [9] Did the SENSOR B36 change status from "On" to "Off"?

Yes	No
Continue with <u>Step 10</u> .	Do Step 4 - Step 9 again.

- [10] For the SENSOR B36, insert in the **left** side between the 2 EXIT ROLLERS, a sheet of film 10 cm (3.94 in.) wide and approximately 8 mm (0.32 in.) long.
- [11] Manually rotate the 2 EXIT ROLLERS 1 complete rotation with the film in the left side.
- [12] Did the SENSOR B36 change status from "On" to "Off"?

Yes	No
Continue with <u>Step 13</u> .	Do Step 4 - Step 6 and
	Step 10 - Step 12 again.

- [13] For the SENSOR B37, insert in the **center** between the 2 EXIT ROLLERS, a sheet of film 10 cm (3.94 in.) wide and approximately 8 mm (0.32 in.) long.
- [14] Manually rotate the 2 EXIT ROLLERS 1 complete rotation with the film in the center.
- [15] Did the SENSOR B37 change status from "On" to "Off"?

Yes	No
Continue with <u>Step 16</u> .	Do Step 4 - Step 6 and
	<u>Step 13</u> - <u>Step 15</u> again.

[16] For the SENSOR B37, insert in the **right** side between the 2 EXIT ROLLERS, a sheet of film 10 cm (3.94 in.) wide and approximately 8 mm (0.32 in.) long.

- [17] Manually rotate the 2 EXIT ROLLERS 1 complete rotation with the film in the right side.
- [18] Did the SENSOR B37 change status from "On" to "Off"?

Yes	No
Continue with Step 19.	Do Step 4 - Step 6 and
	<u>Step 16</u> - <u>Step 18</u> again.

- [19] Exit the "SERVICE SOFTWARE".
- [20] Close the FILM CHUTE.
- [21] Install the BACK PANEL.

Pneumatic Pressure

Adjustment Specification

Purpose: To adjust the pneumatic pressure.

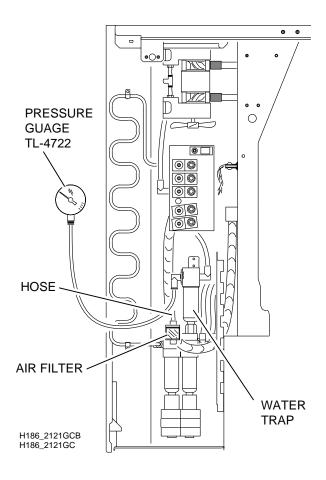
Specification: Pressure is at 4 ± 0.2 Bar (58 ± 2.9 PSI).

Special Tools: PRESSURE GAUGE TL-4722 **Prerequisites:** • Lift the TOP COVER.

· Remove the left SIDE PANEL.

Postrequisites: None

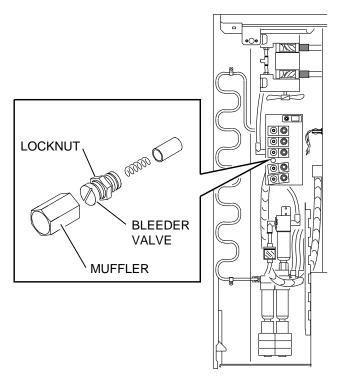
To Check:



- [1] Disconnect the HOSE at the upper WATER TRAP.
- [2] Connect the PRESSURE GAUGE TL-4722. See the graphic.
- [3] Using the "SERVICE SOFTWARE", select:
 - "Component Test"
 - "On" from "Compressor (M16)"
 - "On" from "Magazine Blowing (Y11)"
- [4] Is the pressure at 4 ± 0.2 Bar (58 ± 2.9 PSI)?

Yes	No
Advance to Step 6.	Continue with <u>Step 1</u> .

To Adjust:



H186_2140GCA H186_2140GC



Important

If you cannot remove the MUFFLER, install a new BLEEDER VALVE.

- [1] Remove the MUFFLER.
- [2] Loosen the LOCKNUT.
- [3] To adjust the pneumatic pressure, rotate the BLEEDER VALVE:
 - · clockwise to increase
 - counterclockwise to decrease
- [4] Tighten the LOCKNUT.
- [5] Install the MUFFLER.
- [6] Exit the "SERVICE SOFTWARE".
- [7] Disconnect the PRESSURE GAUGE TL-4722.
- [8] Connect the HOSE at the WATER TRAP.
- [9] Install the left SIDE PANEL.
- [10] Close the TOP COVER.

Section 2: Replacements

INPUT FLAP MOTOR M1 - CASSETTE

Prerequisites:

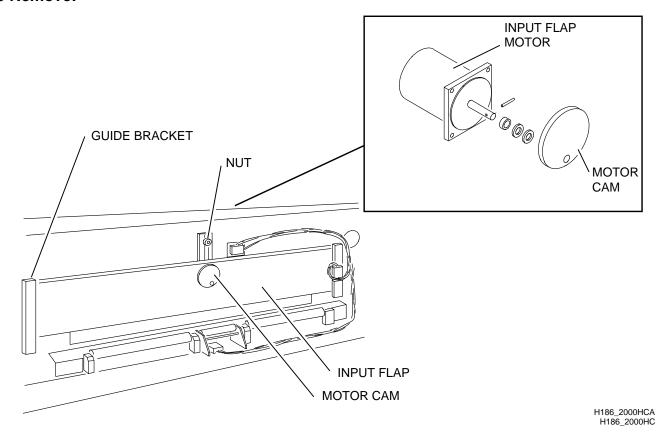


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove:
 - FRONT PANEL
 - left SIDE PANEL
 - right SIDE PANEL

To Remove:



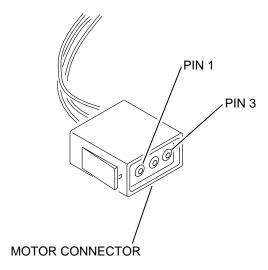
[1] Remove:

- MOTOR CAM
- NUT
- GUIDE BRACKET
- INPUT FLAP
- INPUT FLAP MOTOR
- all necessary hardware

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:



H186_2001ACA H186_2001AC

- [1] Using the "SERVICE SOFTWARE":
 - (a) Select "Component Test".
 - **(b)** Energize the INPUT FLAP MOTOR.
- [2] Check that the MOTOR CAM rotates clockwise. If the MOTOR CAM does **not** rotate clockwise, do Step 3.
- [3] If the MOTOR CAM rotates counterclockwise, interchange PIN 1 and PIN 3 at the MOTOR CONNECTOR.

SHORT TRANSPORT ROLLERS

Prerequisites:



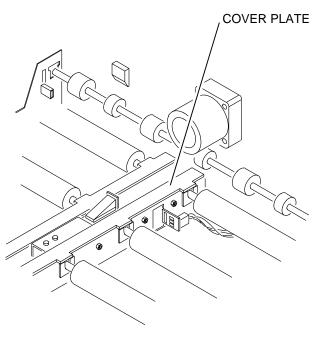
Warning

Dangerous Voltage

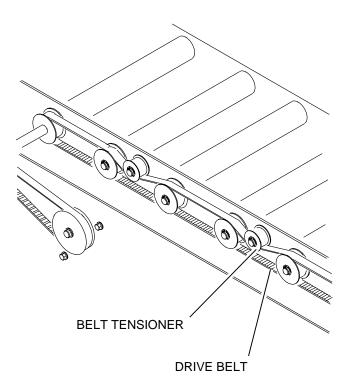
- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove:
 - right SIDE PANEL
 - left SIDE PANEL

To Remove:

[1] Remove the COVER PLATE.



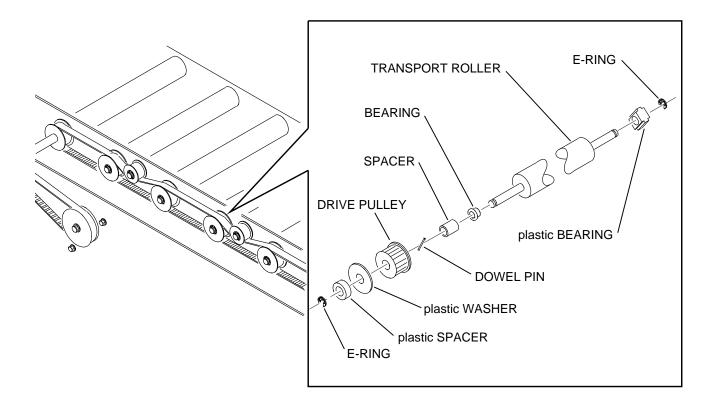
H186_2002GCA H186_2002GC



H186_2003GCB H186_2003GC

[2] Remove:

- BELT TENSIONER
- DRIVE BELT



1186_2004HCA 1186_2004HC

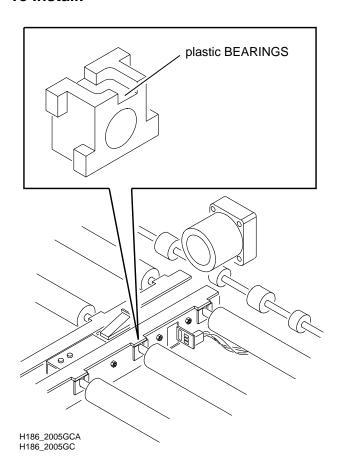
[3] Remove:

- E-RING
- plastic SPACER
- plastic WASHER
- DRIVE PULLEY
- DOWEL PIN
- SPACER
- BEARING
- [4] Lift the end of the TRANSPORT ROLLER on the side of the plastic BEARING.

[5] Remove:

- TRANSPORT ROLLER
- plastic BEARING
- E-RING

To Install:





Important

The plastic BEARINGS must be installed correctly. See the graphic.

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Check for correct forward and backward transport of a CASSETTE.

LONG TRANSPORT ROLLER

Prerequisites:

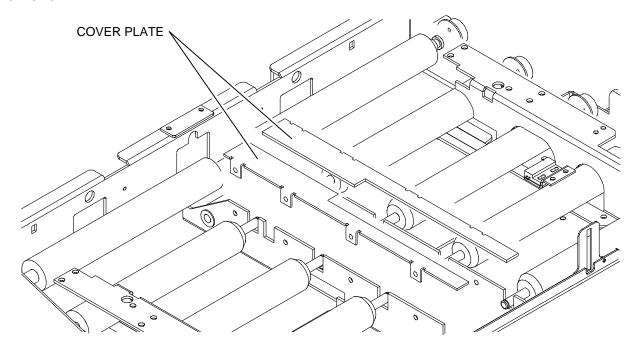


Warning

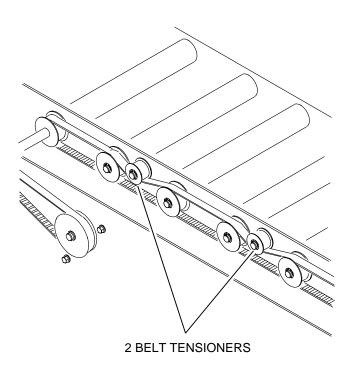
Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove:
 - right SIDE PANEL
 - left SIDE PANEL

To Remove:

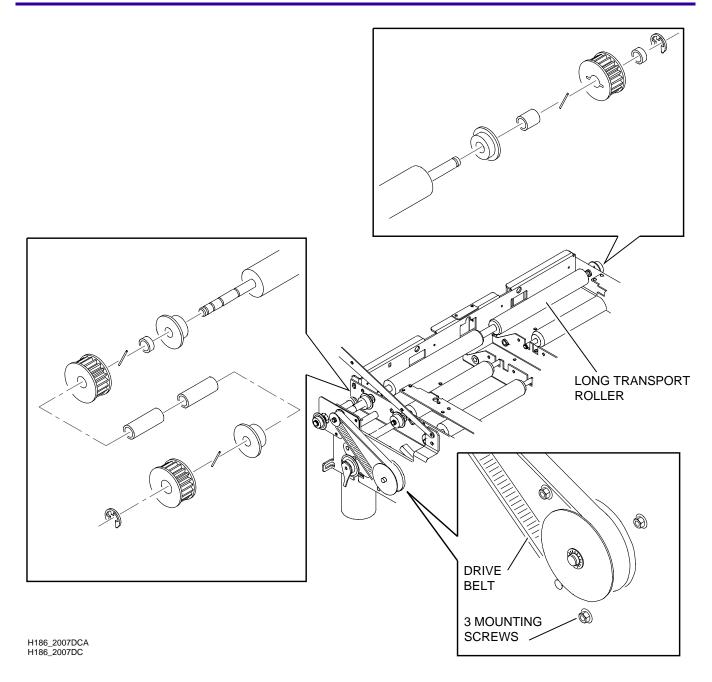


H186_2006HCA H186_2006HC

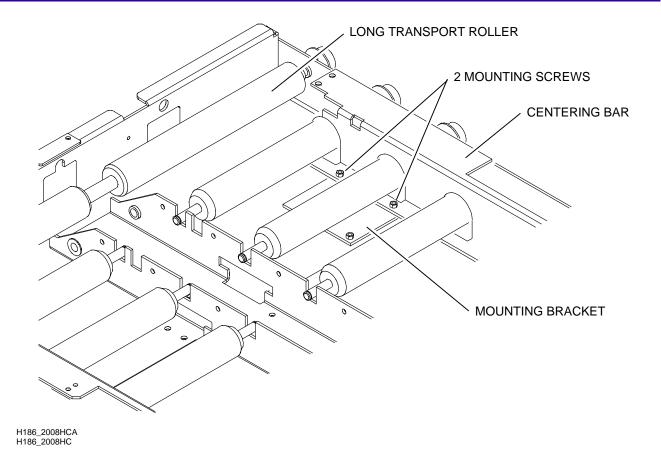


- [1] Remove the COVER PLATES.
- [2] Loosen the 2 BELT TENSIONERS on the right and left sides.

H186_2003GCA H186_2003GC



- [3] Loosen the 3 MOUNTING SCREWS to release the tension on the DRIVE BELT.
- [4] Remove all of the hardware and DRIVE BELTS from the right and left sides of the LONG TRANSPORT ROLLER.



[5] Remove:

- 2 MOUNTING SCREWS
- right CENTERING BAR from the MOUNTING BRACKET
- [6] Move the LONG TRANSPORT ROLLER to the left until it stops.
- [7] Lift the right end of the LONG TRANSPORT ROLLER up.
- [8] Remove the LONG TRANSPORT ROLLER from the right side.

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Check for correct forward and backward transport of a CASSETTE.

CASSETTE WIDTH TIMING BELT

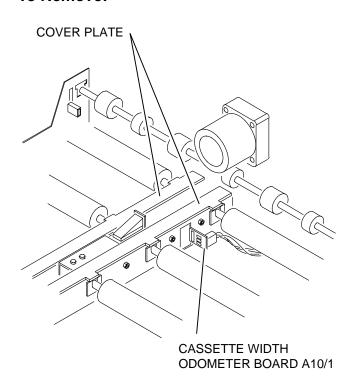
Prerequisites:



Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.

To Remove:



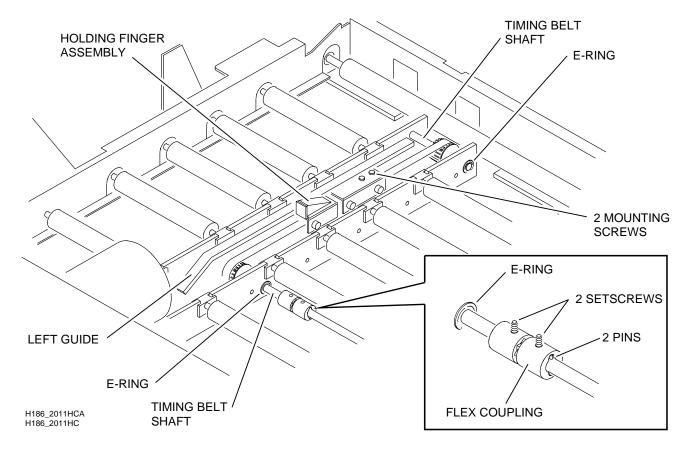
WESI

Possible damage from electrostatic discharge.

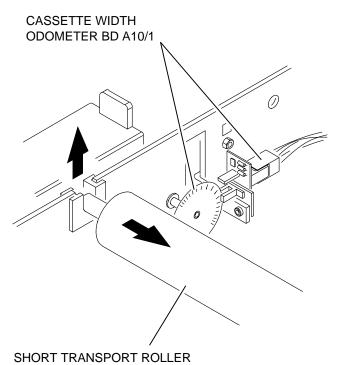
[1] Remove:

- COVER PLATES
- CASSETTE WIDTH ODOMETER BOARD A10/1

H186_2010GCA H186_2010GC

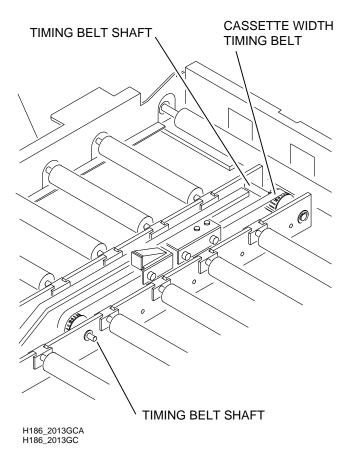


- [2] Remove the LEFT GUIDE.
- [3] Loosen the 2 MOUNTING SCREWS.
- [4] Remove:
 - HOLDING FINGER ASSEMBLY
 - 2 E-RINGS on the 2 TIMING BELT SHAFTS
- [5] Loosen the 2 SETSCREWS.
- [6] Remove:
 - FLEX COUPLING
 - 2 PINS



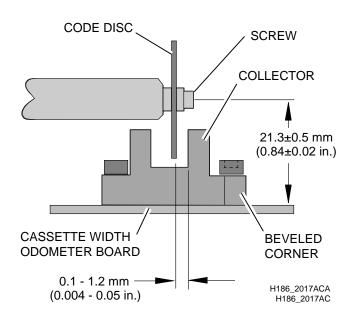
[7] Lift the SHORT TRANSPORT ROLLER located by the CASSETTE WIDTH ODOMETER BOARD A10/1.

H186_2012GCA H186_2012GC



- [8] Move both TIMING BELT SHAFTS to the left.
- [9] Remove the CASSETTE WIDTH TIMING BELT.

To Install:

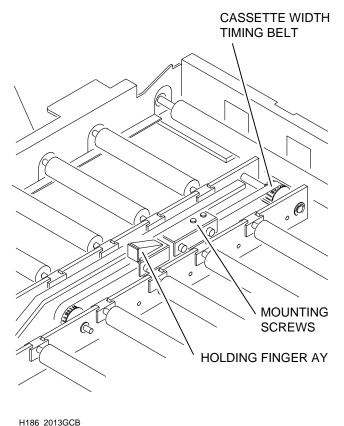




Important

The CASSETTE WIDTH ODOMETER BOARD A10/1 must be installed correctly. Use the BEVELED CORNER as a reference to locate the side of the COLLECTOR.

- [1] When you install the BOARD A10/1, check:
 - distance between the CODE DISC and the COLLECTOR is 0.1 - 1.2 mm (0.004 - 0.05 in.)
 - distance from the center of the SCREW to the BOARD A10/1 must be 21.3 \pm 0.5 mm (0.84 \pm 0.02 in.)





Important

The CASSETTE WIDTH TIMING BELT must be in the center of the HOLDING FINGER ASSEMBLY before you tighten the MOUNTING SCREWS.

[2] Reverse the steps in the removal procedure.

Postrequisites:

- [1] Insert a CASSETTE.
- [2] Check:

H186_2013GC

- HOLDING FINGER transfers the CASSETTE up to the END STOP
- · correct size CASSETTE is detected

CASSETTE TRANSPORT MOTOR M2

Prerequisites:



Important

The RETAINING RING should not be used again.

[1] You must order a new RETAINING RING before you do this procedure. See the ILLUSTRATED PARTS LIST, Publication No. 3H9267 for the correct part number.

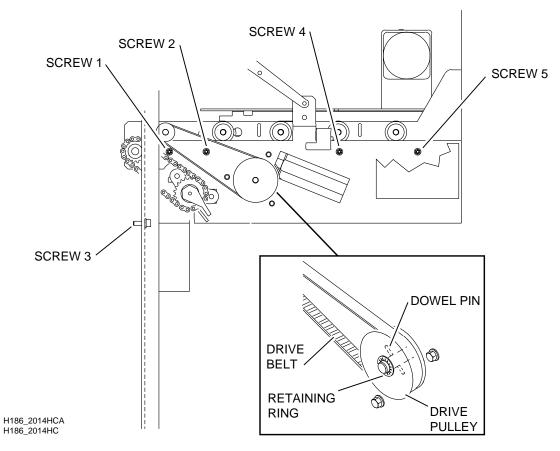


Warning

Dangerous Voltage

- [2] De-energize the MULTILOADER 7000.
- [3] Lift the TOP COVER.
- [4] Remove the left SIDE PANEL.

To Remove:



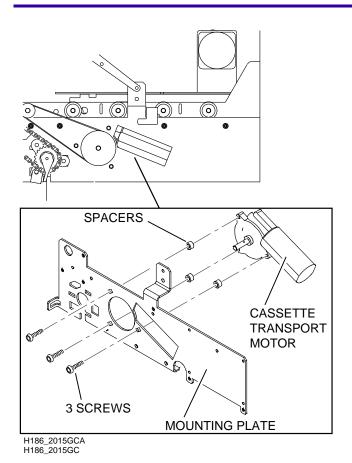
[1] Remove and discard the RETAINING RING.



Important

The DOWEL PIN might fall when you remove the DRIVE PULLEY.

- [2] Remove:
 - DRIVE PULLEY
 - DOWEL PIN
 - DRIVE BELT
- [3] Loosen:
 - SCREW 1
 - SCREW 2
 - SCREW 3
- [4] Remove:
 - SCREW 4
 - SCREW 5





Caution

The SPACERS between the CASSETTE TRANSPORT MOTOR M2 and the MOUNTING PLATE might fall.

[5] Remove:

- 3 SCREWS
- CASSETTE TRANSPORT MOTOR

To Install:



Important

Use the new RETAINING RING when you install the DRIVE PULLEY.

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Using the "SERVICE SOFTWARE", check the forward and backward operation of the CASSETTE TRANSPORT MOTOR.

CASSETTE OPENER MOTOR M5

Prerequisites:



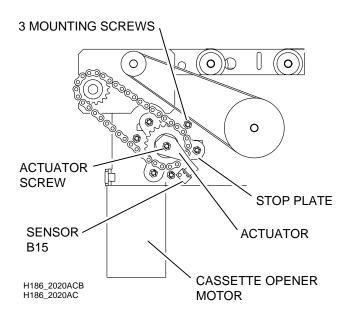
Warning

Dangerous Voltage

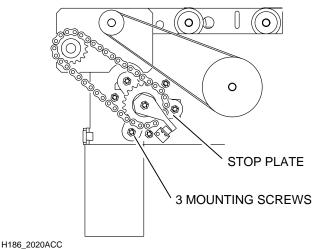
- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove:
 - left SIDE PANEL
 - MAGAZINE TRANSPORT MECHANISM AY see Page 111

To Remove:

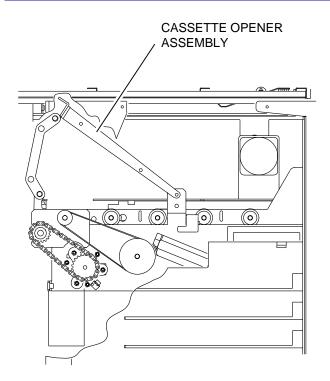
H186_2020AC



- [1] Make a mark of the position of the STOP PLATE.
- [2] Remove:
 - ACTUATOR SCREW
 - ACTUATOR
 - 3 MOUNTING SCREWS from the CASSETTE OPENER MOTOR
 - SENSOR B15



[3] Remove the 3 MOUNTING SCREWS from the STOP PLATE.



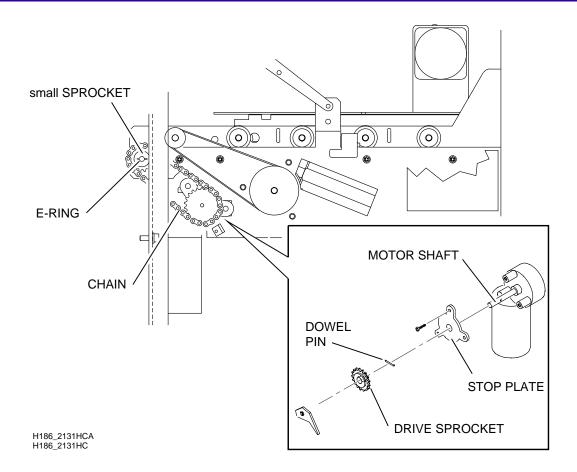


Caution

Prevent the CASSETTE OPENER ASSEMBLY from falling.

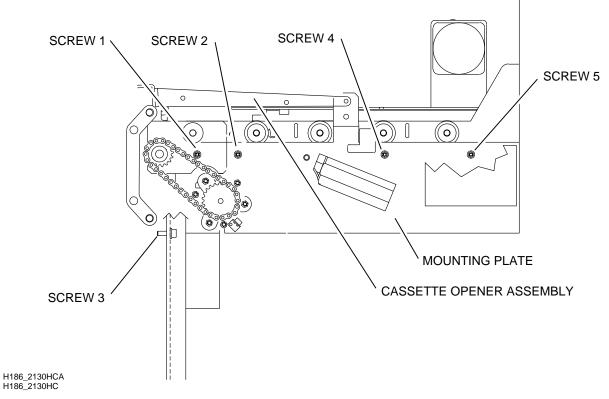
[4] With your hand, hold the CASSETTE OPENER ASSEMBLY in an up position.

H186_2129GCA H186_2129GC

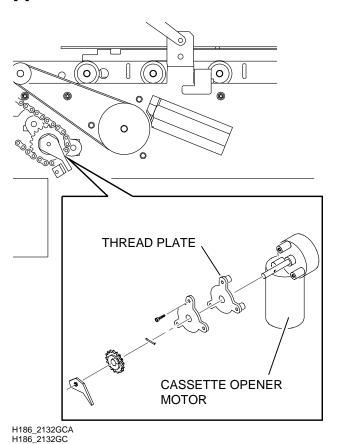


[5] Remove:

- E-RING
- DRIVE SPROCKET
- CHAIN
- small SPROCKET
- DOWEL PIN from the MOTOR SHAFT
- STOP PLATE



- **[6]** Manually lower the CASSETTE OPENER ASSEMBLY to the bottom position.
- [7] Remove the SCREWS 1 5.
- [8] Pull the MOUNTING PLATE forward.



[9] Remove:

- THREAD PLATE
- CASSETTE OPENER MOTOR

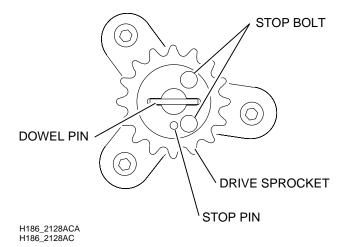
To Install:



Important

Do not tighten the 3 MOUNTING SCREWS at this time.

- [1] Install:
 - new CASSETTE OPENER MOTOR
 - THREAD PLATE
 - SCREWS 1 5
 - SENSOR B15
 - 3 MOUNTING SCREWS from the CASSETTE OPENER MOTOR
 - STOP PLATE using the marks from <u>Step 1</u> of the removal procedure
- [2] Install and tighten the 3 MOUNTING SCREWS from the STOP PLATE a minimum quantity so that the MOUNTING PLATE can be moved.





Warning

Dangerous Voltage

[3] Energize the MULTILOADER 7000.



Important

When you install the DRIVE SPROCKET, the DOWEL PIN must be in the correct position.

- [4] To install the DRIVE SPROCKET:
 - (a) Using the "SERVICE SOFTWARE", energize the CASSETTE OPENER MOTOR until the DOWEL PIN is in a horizontal position.
 - **(b)** Install the DRIVE SPROCKET onto the MOTOR SHAFT.
 - (c) Check:
 - DRIVE SPROCKET seats correctly on the DOWEL PIN
 - STOP PIN is to the left of the bottom STOP BOLT



Note

If the STOP PIN is to the right, the CASSETTE OPENER MOTOR cannot move the correct distance.

[5] Install the ACTUATOR to hold the DRIVE SPROCKET on the MOTOR SHAFT. Do not tighten the ACTUATOR SCREW at this time.



Important

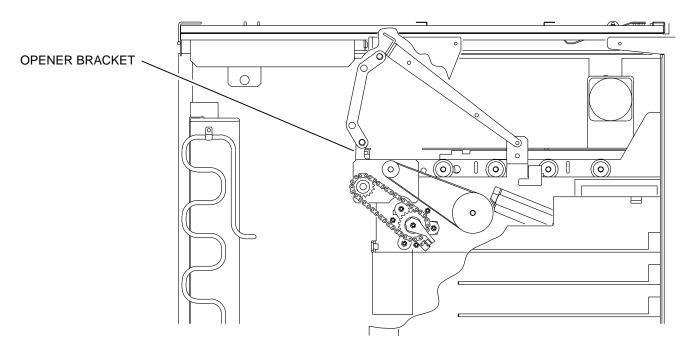
The CASSETTE OPENER AY must be in the bottom position.

[6] To install the CHAIN using the "SERVICE SOFTWARE", select "Step Down" from the "Cassette Opening (M5)".



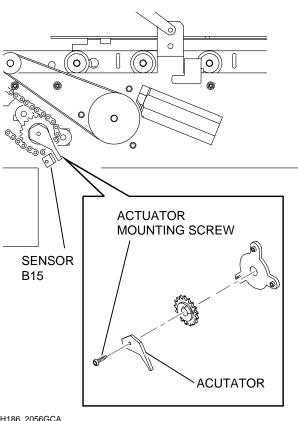
The STOP PIN of the DRIVE SPROCKET should touch the bottom STOP BOLT.

- [7] Install:
 - CHAIN onto the DRIVE SPROCKET and small SPROCKET
 - small SPROCKET onto the SHAFT
 - E-RING
- [8] Manually move the CASSETTE OPENER MOTOR to the right to apply tension to the CHAIN.
- [9] Tighten the 3 MOUNTING SCREWS for the CASSETTE OPENER MOTOR.



H186_2009HCB H186_2009HC

[10] Using the "SERVICE SOFTWARE", select "Step Up" from "Cassette Opening (M5)" until the OPENER BRACKET is vertical.



- until the SENSOR B15 is "On".
- [12] Tighten the ACTUATOR MOUNTING SCREW.

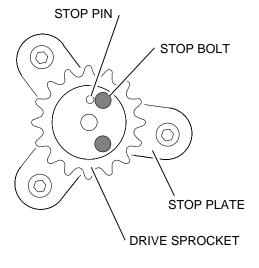
[11] From "Magazine Sensor Test" using the

[13] Using the "SERVICE SOFTWARE", select "Down", then "Up", from "Cassette Opening (M5)".

"SERVICE SOFTWARE", adjust the ACTUATOR

H186_2056GCA H186_2056GC

H186_2057ACA H186_2057AC

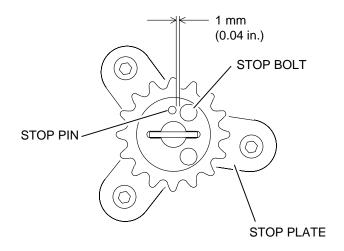


[14] Is the ACTUATOR vertical?

Yes	No
Continue with <u>Step 15</u> .	Do <u>Step 10</u> - <u>Step 14</u> again.

[15] When the CASSETTE OPENER ASSEMBLY is in the "Up" position, rotate the STOP PLATE counterclockwise until the STOP PIN of the DRIVE SPROCKET touches the top STOP BOLT.

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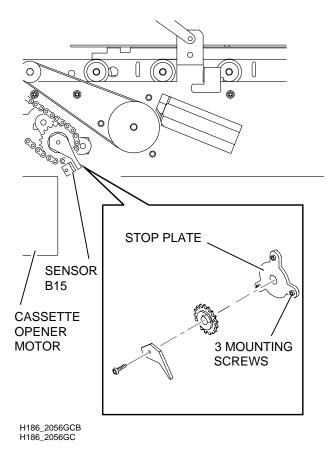




The 1 mm (0.04 in.) distance is not visible.

[16] Manually rotate the STOP PLATE clockwise until there is an approximate distance of 1mm (0.04 in.) between the STOP PIN and the STOP BOLT.





- [17] Tighten the 3 MOUNTING SCREWS on the STOP PLATE.
- [18] To check the correct position of the STOP PLATE:
 - (a) Disconnect the SENSOR B15.
 - **(b)** From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Up".

Note

The CASSETTE OPENER MOTOR moves a minimum distance and stops. There is a high frequency noise at the same time.

- (c) Connect the SENSOR B15.
- (d) From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Down" until the CASSETTE OPENER MOTOR stops in the bottom position.
- (e) Manually actuate the SENSOR B15.
- **(f)** Using the "SERVICE SOFTWARE", select "Down" again.

Note

The CASSETTE OPENER MOTOR moves a minimum distance and stops. There is a high frequency noise at the same time.

(g) From "Cassette Opening (M5)" using the "SERVICE SOFTWARE", select "Up" until the CASSETTE OPENER MOTOR stops in the up position.

[19] Are the up and down positions correct?

Yes	No
Continue with <u>Step 20</u> .	Do <u>Step 15</u> - <u>Step 19</u> again.

[20] Exit the "SERVICE SOFTWARE".

[21] Install:

- MAGAZINE TRANSPORT MECHANISM AY see Page 111
- left SIDE PANEL
- [22] Close the TOP COVER.

Postrequisites:

- [1] Do some cycles with different size CASSETTES.
- [2] Check:
 - OPENER BRACKET is vertical when the CASSETTE is opened
 - · CASSETTE is correctly closed

CONVEYOR ASSEMBLY

Prerequisites:

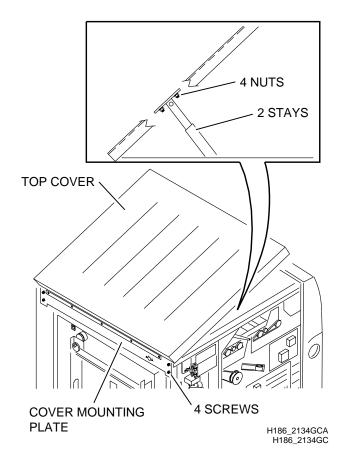


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove the right SIDE PANEL.

To Remove:



[1] Lift the TOP COVER.

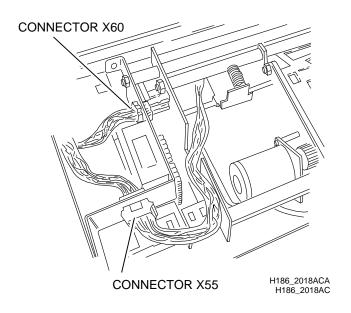


Caution

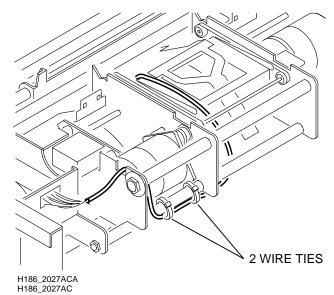
Prevent the TOP COVER from falling when you remove the 4 NUTS.

[2] Remove:

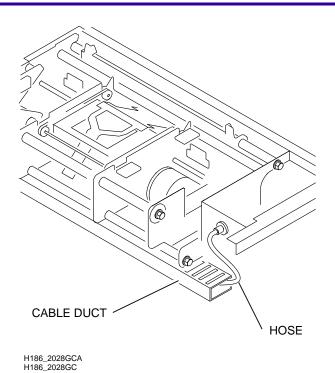
- 4 NUTS from the 2 STAYS
- 4 SCREWS
- TOP COVER with the COVER MOUNTING PLATE



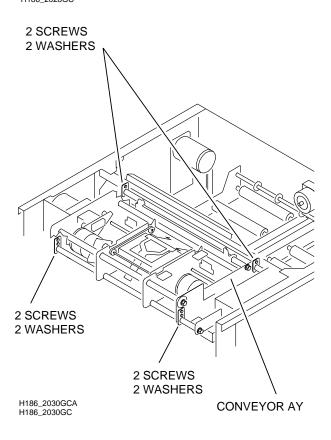
- [3] Disconnect the CONNECTORS:
 - X55
 - X60



[4] Cut the 2 WIRE TIES.



- [5] Disconnect the HOSE.
- [6] Carefully pull the HOSE out of the CABLE DUCT.



[7] Remove:

- 6 SCREWS
- 6 WASHERS
- [8] Remove the CONVEYOR ASSEMBLY.

To Install:



Important

Before you tighten the 6 SCREWS, place the CONVEYOR ASSEMBLY fully to the back of the MULTILOADER 7000.

[1] Reverse the steps in the removal procedure.

Postrequisites:

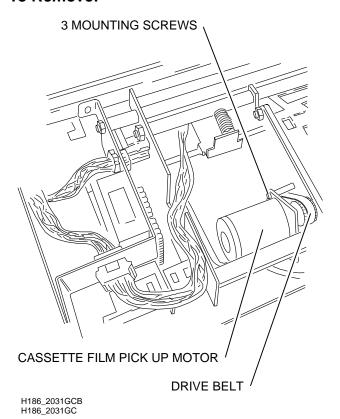
- [1] Check:
 - · correct operation using different film sizes
 - film is transported from the CASSETTE
 - · correct film transport in the FILM CHUTE

DRIVE BELT - CASSETTE FILM PICK UP MOTOR M6

Prerequisites:

[1] Remove the CONVEYOR ASSEMBLY. See Page 100.

To Remove:



- [1] Remove the 3 MOUNTING SCREWS.
- [2] Move the CASSETTE FILM PICK UP MOTOR toward the back of the MULTILOADER 7000.
- [3] Remove the DRIVE BELT.

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

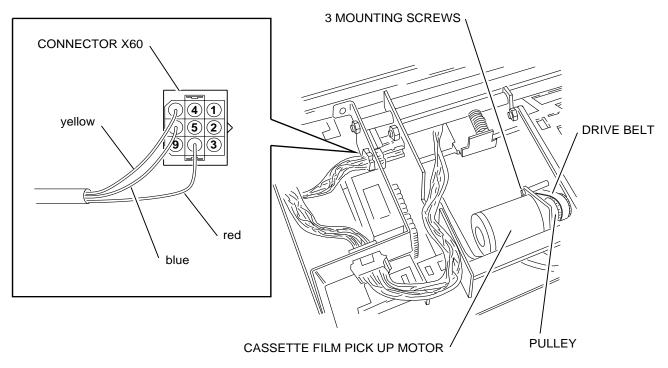
- [1] Check:
 - CONVEYOR ASSEMBLY is installed fully to the back of the MULTILOADER 7000
 - · correct film transport into the FILM CHUTE
 - · correct operation using different film sizes

CASSETTE FILM PICK UP MOTOR M6

Prerequisites:

[1] Remove the CONVEYOR ASSEMBLY. See Page 100.

To Remove:



H186_2124HCA H186_2124HC

- [1] Disconnect the blue, yellow, and red wires from positions 6, 7, and 8 of the CONNECTOR X60. Use the EXTRACTION TOOL TL-1580.
- [2] Remove:
 - 3 MOUNTING SCREW
 - DRIVE BELT
 - CASSETTE FILM PICK UP MOTOR
 - PULLEY

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

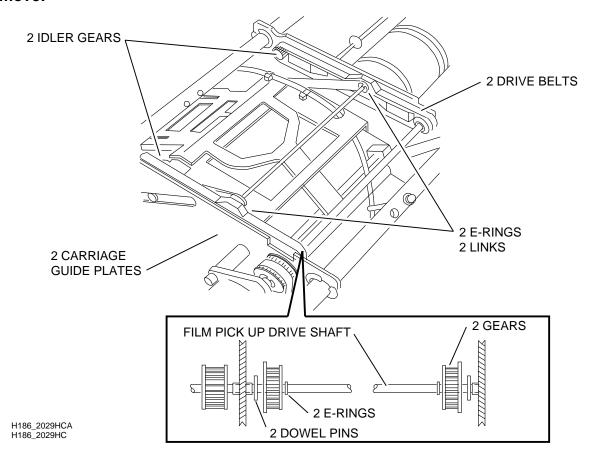
- [1] Using the "SERVICE SOFTWARE", check that the CASSETTE FILM PICK UP MOTOR is operating correctly.
- [2] Check that the CONVEYOR ASSEMBLY is installed fully to the back of the MULTILOADER 7000.

DRIVE BELTS - CARRIAGE ASSEMBLY

Prerequisites:

- [1] Remove:
 - CONVEYOR ASSEMBLY see Page 100
 - CASSETTE FILM PICK UP MOTOR M6 see Page 104

To Remove:





Important

The marks are necessary for correct alignment during installation of the new DRIVE BELTS.

- [1] Make a mark of the position of the LINKS on the 2 CARRIAGE GUIDE PLATES.
- [2] Remove:
 - 2 IDLER GEARS
 - 2 E-RINGS from the 2 LINKS
 - · 2 E-RINGS from the FILM PICK UP DRIVE SHAFT



Caution

The DOWEL PINS will fall when you move the GEARS.

- [3] Move the 2 GEARS toward the center of the FILM PICK UP DRIVE SHAFT.
- [4] Remove the 2 DOWEL PINS.
- [5] Move the FILM PICK UP DRIVE SHAFT to the left.
- [6] Remove the 2 DRIVE BELTS.

To Install:



Caution

Prevent a jam in the CARRIAGE ASSEMBLY. You must align the LINKS of the DRIVE BELT with the marks from Step 1 of the removal procedure.

[1] Reverse the steps in the removal procedure.

Postrequisites:

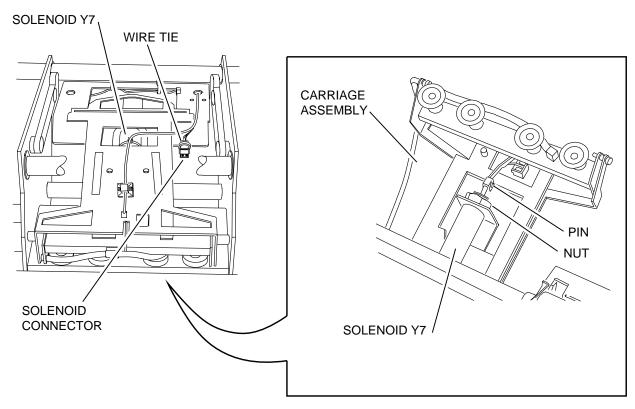
- [1] Check:
 - CONVEYOR ASSEMBLY is installed fully to the back of the MULTILOADER 7000
 - correct film transport into the FILM CHUTE
 - · correct operation using different film sizes
 - · film is removed correctly from the CASSETTE
 - CARRIAGE ASSEMBLY moves freely forward and backward

SOLENOID Y7

Prerequisites:

[1] Remove the CONVEYOR ASSEMBLY. See Page 100.

To Remove:



H186_2125HCA H186_2125HC

- [1] Rotate the CARRIAGE ASSEMBLY 180 degrees.
- [2] Carefully pull the CARRIAGE ASSEMBLY forward for access to the SOLENOID Y7.
- [3] Remove the PIN.
- [4] Loosen the NUT.
- [5] Remove the WIRE TIE.
- [6] Disconnect the SOLENOID CONNECTOR.
- [7] Remove the SOLENOID Y7.

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

- [1] Using the "SERVICE SOFTWARE", check for the correct operation of the SOLENOID Y7.
- [2] Check that the CONVEYOR ASSEMBLY is installed fully to the back of the MULTILOADER 7000.

SENSOR B19

Prerequisites:

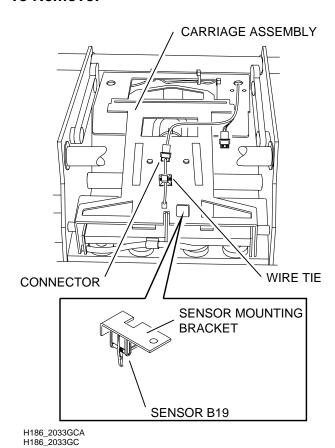


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.

To Remove:



- [1] Manually move the CARRIAGE ASSEMBLY to the front.
- [2] Make a mark of the position of the SENSOR MOUNTING BRACKET.
- [3] Remove the WIRE TIE.
- [4] Disconnect the CONNECTOR.
- [5] Remove:
 - SENSOR MOUNTING BRACKET
 - SENSOR B19

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:



Important

You must manually tilt the CASSETTE SUCKER BAR to change the status of SENSOR B19.

[1] Using the "SERVICE SOFTWARE", select "Cassette Sensor Test" to check for the correct operation of the SENSOR B19.

MAGAZINE SUCKERS

Prerequisites:

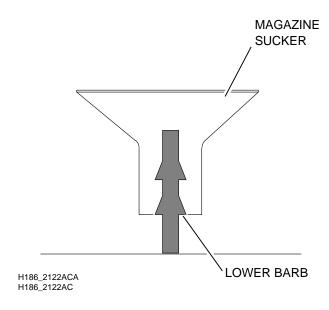


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove the BACK PANEL.
- [3] Open the FILM CHUTE.

To Remove:



[1] Pull the existing MAGAZINE SUCKERS to remove.

To Install:



Caution

Touching the area of the MAGAZINE SUCKERS that contacts the film will cause contamination.

- [1] Install the new MAGAZINE SUCKERS so that the bottom of the MAGAZINE SUCKERS are flush with the LOWER BARB.
- [2] Close the FILM CHUTE.
- [3] Install the BACK PANEL.

Postrequisites:

[1] Do the adjustment for the MAGAZINE FILM PIN ACTUATOR. See Page 46.

MAGAZINE SHUTTLE MECHANISM MOTOR M20

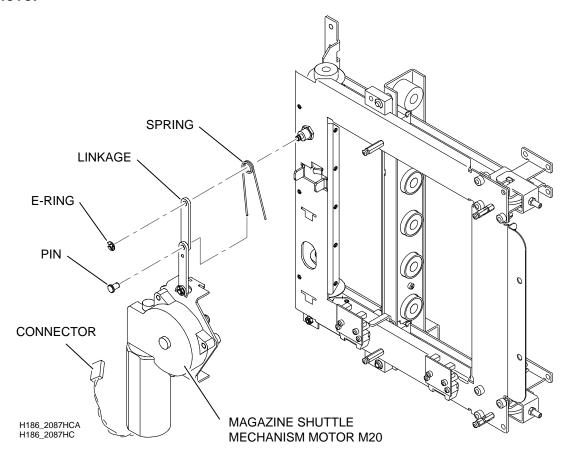
Prerequisites:



Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove left SIDE PANEL.

To Remove:



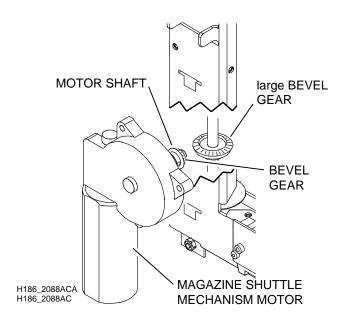
- [1] Disconnect the CONNECTOR from the MAGAZINE SHUTTLE MECHANISM MOTOR M20.
- [2] Remove the E-RING.



Caution

Prevent damage. The SPRING and PIN might fall when you remove the MOTOR.

- [3] Lift and pull to remove the MAGAZINE SHUTTLE MECHANISM MOTOR.
- [4] Remove:
 - SPRING
 - PIN
 - LINKAGE





Important

When you install the new MAGAZINE SHUTTLE MECHANISM MOTOR, the large BEVEL GEAR must align with the BEVEL GEAR on the MOTOR SHAFT.

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Check for the correct operation of the MULTILOADER 7000.

MAGAZINE TRANSPORT MECHANISM ASSEMBLY

Prerequisites:

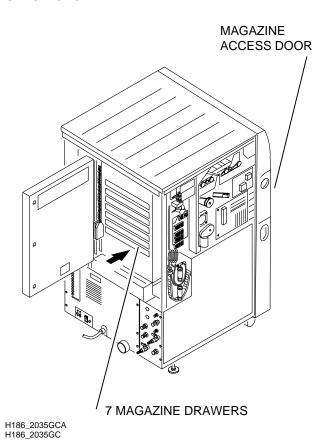


Warning

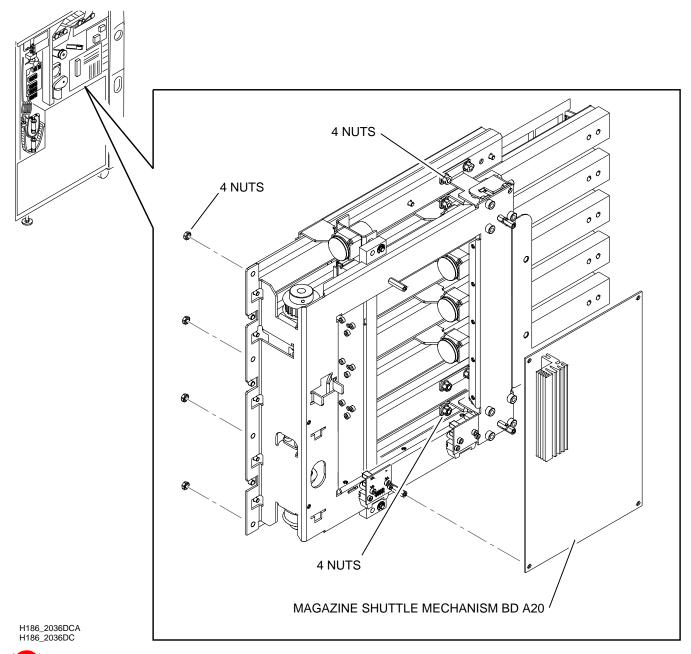
Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove:
 - left SIDE PANEL
 - BACK PANEL
- [4] Open the FILM CHUTE.
- [5] Remove the MAGAZINE SHUTTLE MECHANISM MOTOR. See Page 109.

To Remove:



[1] Move the 7 MAGAZINE DRAWERS forward until the MAGAZINE DRAWERS touch the MAGAZINE ACCESS DOOR.

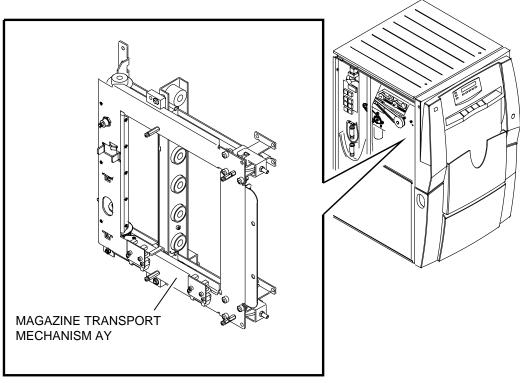




Possible damage from electrostatic discharge.

[2] Remove:

- MAGAZINE SHUTTLE MECHANISM BD A20
- 12 NUTS



H186_2037HCA H186_2037HC

[3] Disconnect all connections.



Caution

Be careful when you remove the ASSEMBLY. Prevent damage to components and wires.

[4] Remove the MAGAZINE TRANSPORT MECHANISM AY.

To Install:



Caution

Be careful when you install the MAGAZINE TRANSPORT MECHANISM ASSEMBLY. Prevent damage to components and wires.

[1] Reverse the steps in the removal procedure.

Postrequisites:

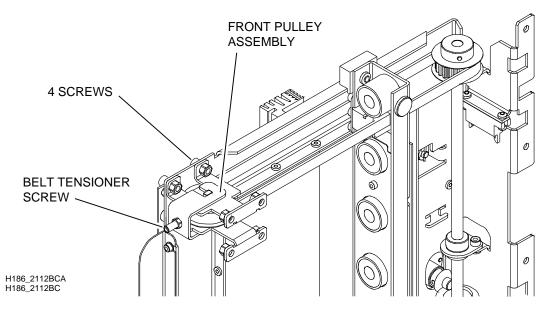
- [1] Check for the correct operation of the MULTILOADER 7000.
- [2] If necessary, do the adjustment for the MAGAZINE TRANSPORT MECHANISM. See Page 61.

SHUTTLE DRIVE BELT

Prerequisites:

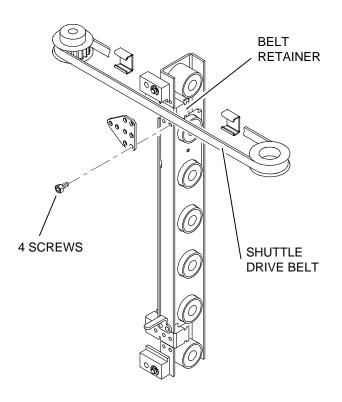
[1] Remove the MAGAZINE TRANSPORT MECHANISM AY. See Page 111.

To Remove:



[1] Remove:

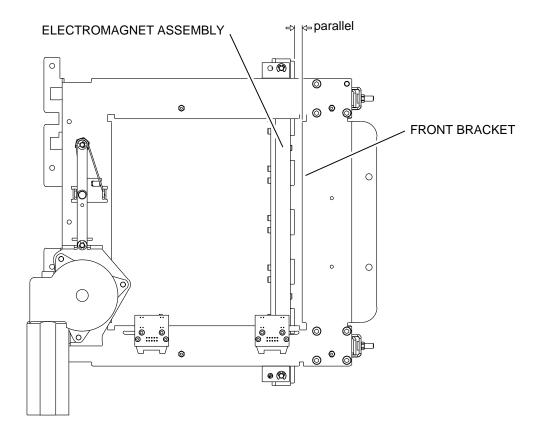
- BELT TENSIONER SCREW
- 4 SCREWS
- FRONT PULLEY ASSEMBLY



[2] Remove:

- 4 SCREWS
- BELT RETAINER
- SHUTTLE DRIVE BELT

H186_2039GCA H186_2039GC



H186_2040HCA H186_2040HC



Warning

When you install the new SHUTTLE DRIVE BELT, the alignment of the ELECTROMAGNET AY must be parallel to the FRONT BRACKET.

[1] Reverse the steps in the removal procedure.

Postrequisites:

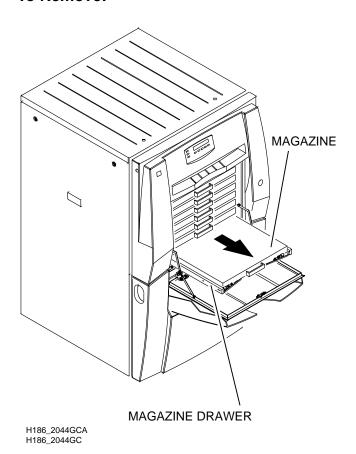
[1] Check for the correct operation of the MULTILOADER 7000.

MAGAZINE DRAWER RAILS

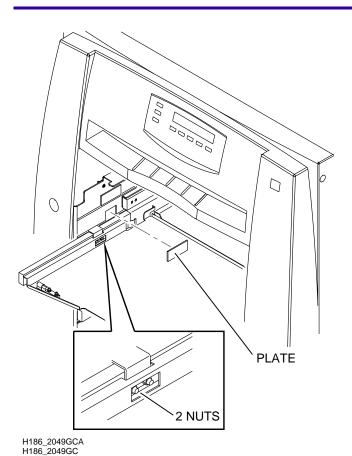
Prerequisites:

- [1] Open the MAGAZINE ACCESS DOOR.
- [2] Move the 7 MAGAZINE DRAWERS fully to the back of the MULTILOADER.
- [3] Remove the BACK PANEL.
- [4] Open the FILM CHUTE.

To Remove:



- [1] Pull the MAGAZINE DRAWER to fully extend it.
- [2] Remove the MAGAZINE.



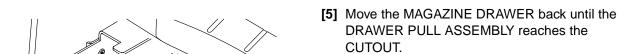
[3] Remove the PLATE.



Important

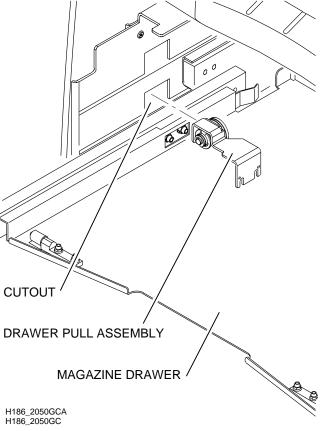
Do not remove the NUTS.

[4] Loosen the 2 NUTS approximately 3 rotations.

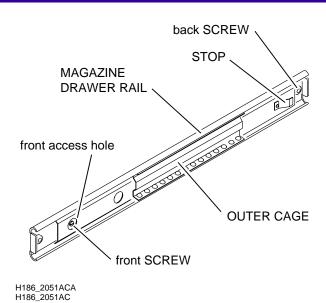




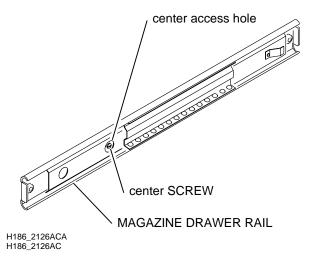
- DRAWER PULL ASSEMBLY
- MAGAZINE DRAWER



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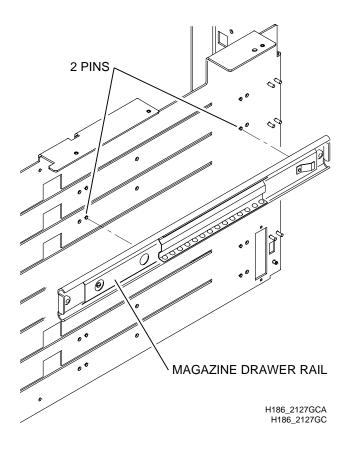
- [7] Remove the back SCREW.
- [8] Release the STOP.
- [9] Move:
 - OUTER CAGE to the back position
 - MAGAZINE DRAWER RAIL toward the back until the front SCREW is visible through the front access hole
- [10] Remove the front SCREW.



[11] Move the MAGAZINE DRAWER RAIL toward the back until the center SCREW is visible through the center access hole.

[12] Remove:

- center SCREW
- MAGAZINE DRAWER RAIL





Important

The new MAGAZINE DRAWER RAIL must align with the 2 PINS before you tighten any SCREWS.

[1] Reverse the steps in the removal procedure.

Postrequisites:

- [1] Insert the MAGAZINE into the MAGAZINE DRAWER.
- [2] Check that the MAGAZINE DRAWER moves forward and backward correctly.

MAGAZINE SIZE/TYPE RECOGNITION BOARD A21

Prerequisites:

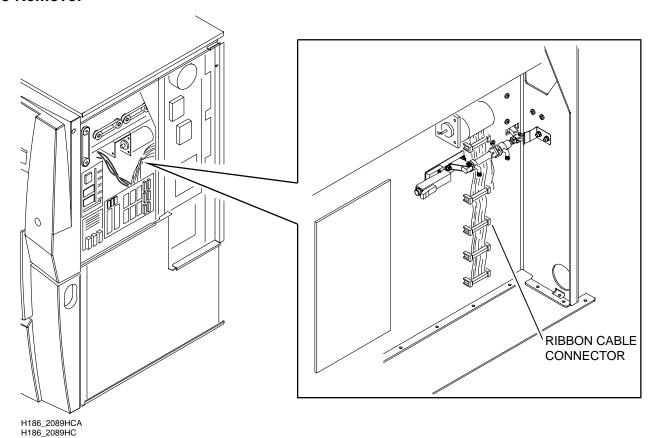


Warning

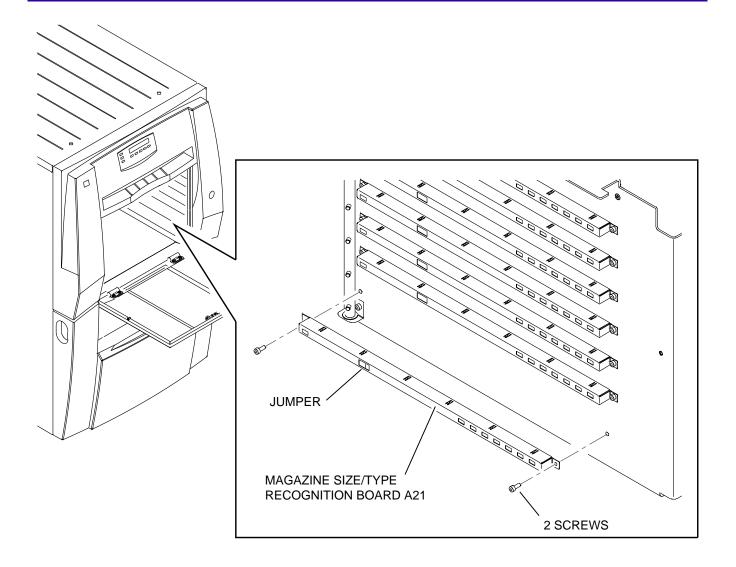
Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove the right SIDE PANEL.
- [4] Open the MAGAZINE ACCESS DOOR.

To Remove:



[1] Disconnect the RIBBON CABLE CONNECTOR.



H186_2101DCA H186_2101DC

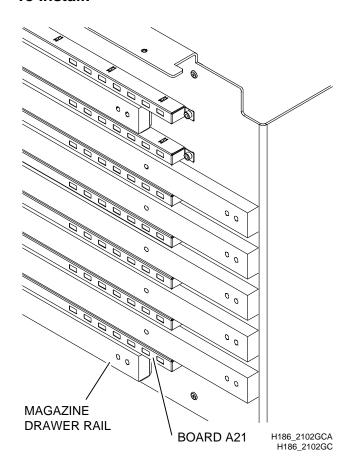


Possible damage from electrostatic discharge.

- [2] Remove:
 - 2 SCREWS
 - MAGAZINE SIZE/TYPE RECOGNITION BOARD A21
- [3] Check the position of the JUMPER.



You must install the JUMPER in the same position on the new BOARD A21.





Important

- You must install the JUMPER in the same position as the old MAGAZINE SIZE/TYPE RECOGNITION BOARD A21.
- The new MAGAZINE SIZE/TYPE RECOGNITION BOARD A21 must not cause any problem with the operation of the MAGAZINE DRAWER RAILS in both the above and below positions.
- [1] Reverse the steps in the removal procedure.

Postrequisites:

- [1] Check that the MULTILOADER 7000 is:
 - recognizing the correct size and type of MAGAZINE in all 7 LEVELS
 - operating correctly

MAGAZINE LOCKING CYLINDER

Prerequisites:

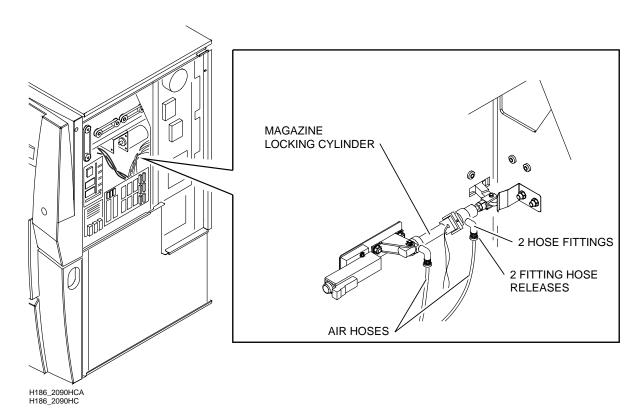


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Lift the TOP COVER.
- [3] Remove right SIDE PANEL.

To Remove:

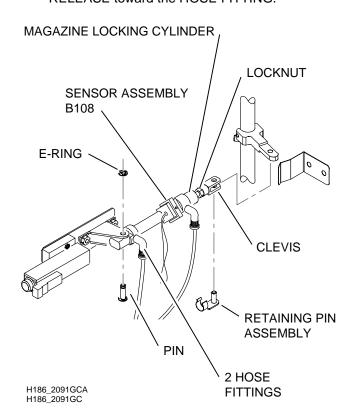




Caution

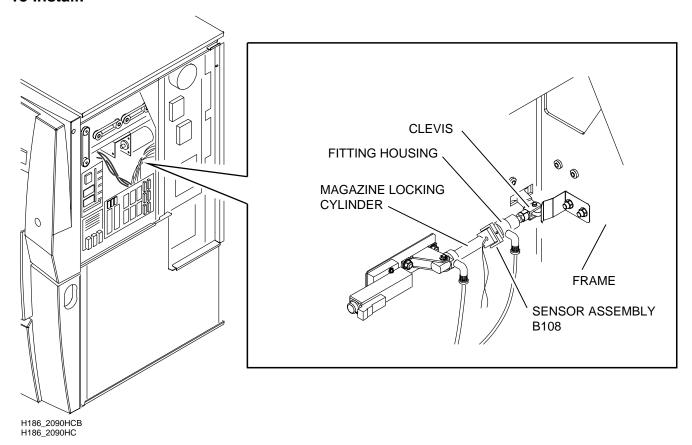
Prevent damage to the FITTING HOSE RELEASE when you disconnect the AIR HOSES.

[1] Disconnect both AIR HOSES from the MAGAZINE LOCKING CYLINDER by pressing the FITTING HOSE RELEASE toward the HOSE FITTING.



[2] Remove:

- RETAINING PIN ASSEMBLY
- E-RING
- PIN
- MAGAZINE LOCKING CYLINDER
- SENSOR ASSEMBLY B108
- [3] Loosen the LOCKNUT.
- [4] Remove:
 - CLEVIS
 - LOCKNUT
 - 2 HOSE FITTINGS





Important

- The CLEVIS should not touch the FRAME when the MAGAZINE LOCKING CYLINDER is fully extended.
- The SENSOR ASSEMBLY B108 should be against the FITTING HOUSING.
- [1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Check for the correct operation of the MULTILOADER 7000.

MAGAZINE OPENER MOTOR M14

Prerequisites:

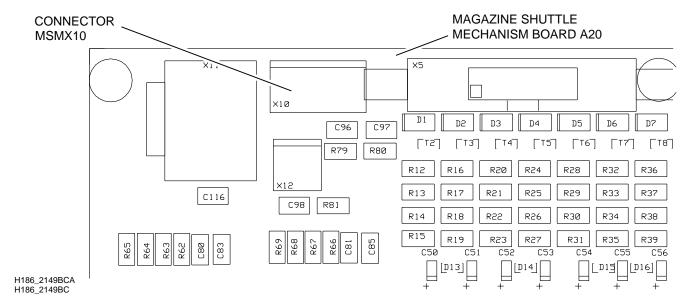


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove:
 - left SIDE PANEL
 - BACK PANEL
- [3] Open the FILM CHUTE.

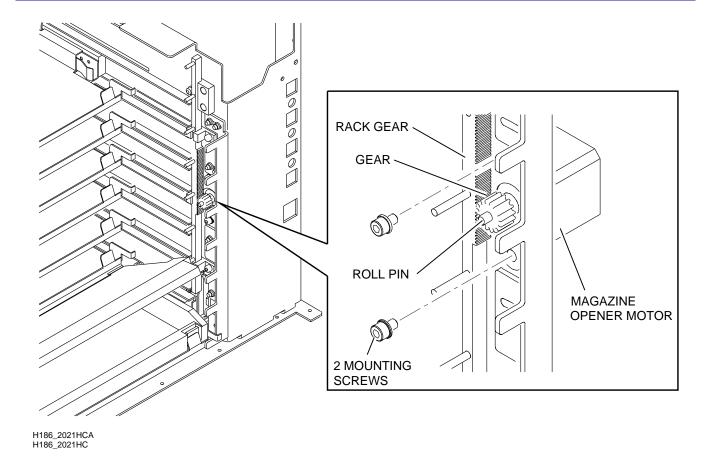
To Remove:





Possible damage from electrostatic discharge.

[1] Disconnect the CONNECTOR MSMX10 from the MAGAZINE SHUTTLE MECHANISM BD A20.



[2] With your hand holding the MAGAZINE OPENER MOTOR, remove:

- 2 MOUNTING SCREWS
- MAGAZINE OPENER MOTOR
- GEAR
- ROLL PIN

To Install:



Important

When you install the MAGAZINE OPENER MOTOR, the GEAR must be fully engaged in RACK GEAR.

[1] Reverse the steps in the removal procedure.

Postrequisites:

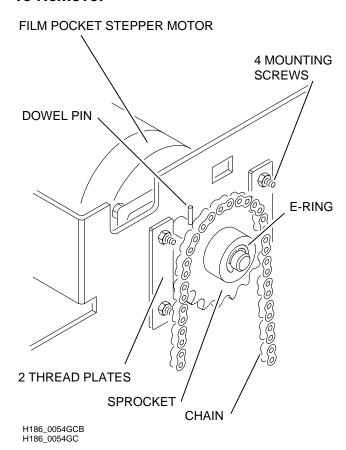
[1] Using the "SERVICE SOFTWARE", check for correct opening and closing of the MAGAZINES.

FILM POCKET STEPPER MOTOR M10

Prerequisites:

[1] Remove the CONVEYOR ASSEMBLY. See Page 100.

To Remove:





Caution

Do not allow the DOWEL PIN to fall.

[1] Remove:

- E-RING
- 4 MOUNTING SCREWS
- 2 THREAD PLATES
- SPROCKET
- CHAIN
- DOWEL PIN
- FILM POCKET STEPPER MOTOR

To Install:



Important

Before you tighten the 4 MOUNTING SCREWS, move the new FILM POCKET STEPPER MOTOR up to apply tension to the CHAIN.

[1] Reverse the steps in the removal procedure.

Postrequisites:

- [1] Using the "SERVICE SOFTWARE", do a "Scan Run".
- [2] Check for the correct operation of the MULTILOADER 7000.

FILM POCKET SUCKER BAR MOTOR M15

Prerequisites:

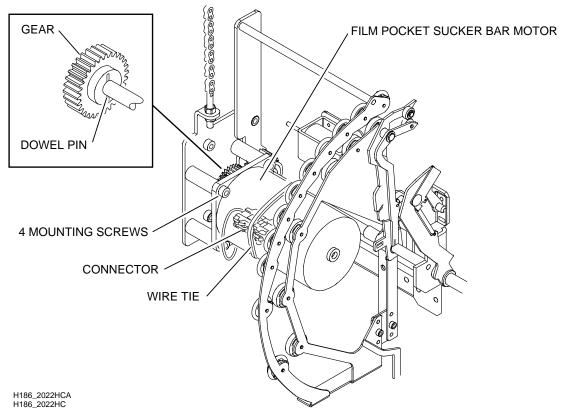


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove the BACK PANEL.
- [3] Open the FILM CHUTE.

To Remove:



- [1] Cut the WIRE TIE.
- [2] Disconnect the CONNECTOR.



Caution

Do not allow the FILM POCKET SUCKER BAR MOTOR to fall.

- [3] Remove:
 - 4 MOUNTING SCREWS
 - FILM POCKET SUCKER BAR MOTOR
 - GEAR
 - DOWEL PIN

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Using the "SERVICE SOFTWARE", check that the FILM POCKET SUCKER BAR ARM moves forward and backward.

FILM POCKET TORSION SPRING

Prerequisites:

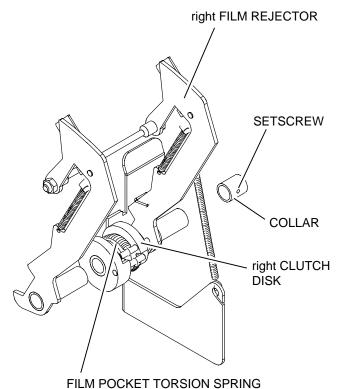


Warning

Dangerous Voltage

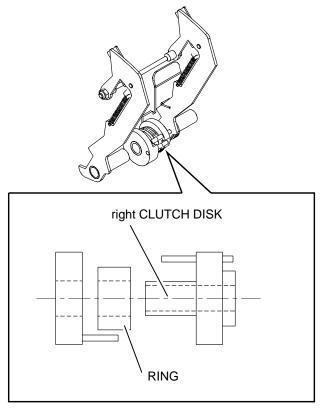
- [1] De-energize the MULTILOADER 7000.
- [2] Remove BACK PANEL.
- [3] Open the FILM CHUTE.

To Remove:



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- H186_2023GCA H186_2023GC

- [1] Loosen the SETSCREW.
- [2] Move to the right:
 - COLLAR
 - right CLUTCH DISK
 - right FILM REJECTOR
- [3] Remove the FILM POCKET TORSION SPRING.





Caution

Prevent excessive wear.

- [1] Apply lubricant around the surface of the RING and right CLUTCH DISK. Use the SYNTHETIC GREASE TL-2247.
- [2] Install the new FILM POCKET TORSION SPRING.
- [3] Move to the left:
 - right FILM REJECTOR
 - right CLUTCH DISK
 - COLLAR
- [4] Tighten the SETSCREW.

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Postrequisites:

- [1] Check:
 - · correct operation using different film sizes
 - film is removed and transported from the MAGAZINES

PROCESSOR INTERFACE MOTOR M13

Prerequisites:

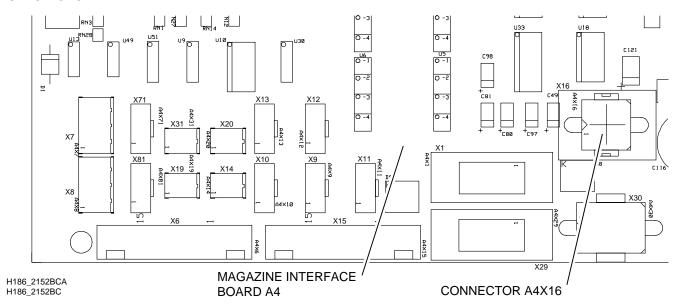


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove:
 - BACK PANEL
 - right SIDE PANEL
- [3] Open the FILM CHUTE.

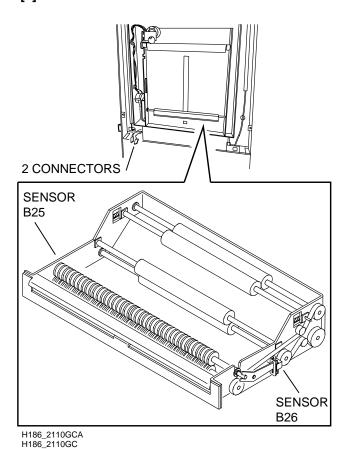
To Remove:



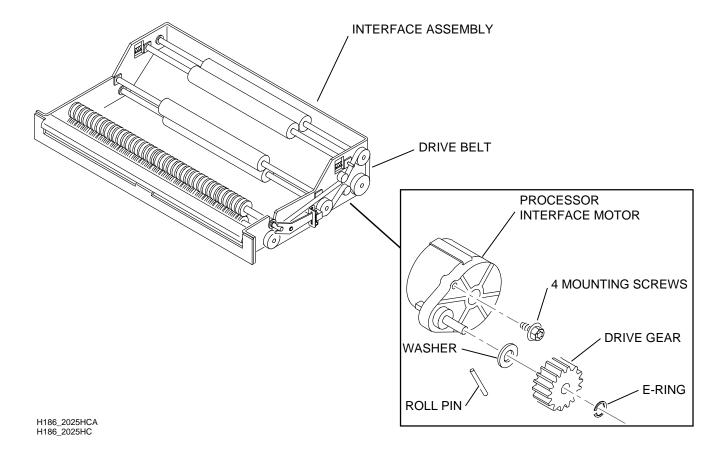


Possible damage from electrostatic discharge.

[1] Disconnect the CONNECTOR A4X16 on the MAGAZINE INTERFACE BOARD A4.



[2] Disconnect the 2 CONNECTORS from the SENSORS B36 and B37.



[3] Remove:

- INTERFACE ASSEMBLY
- E-RING
- DRIVE GEAR
- ROLL PIN
- WASHER
- DRIVE BELT
- 4 MOUNTING SCREWS
- PROCESSOR INTERFACE MOTOR

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

[1] Using the "SERVICE SOFTWARE", check for the correct operation of the PROCESSOR INTERFACE MOTOR.

INTERFACE ONE-WAY PULLEYS

Prerequisites:

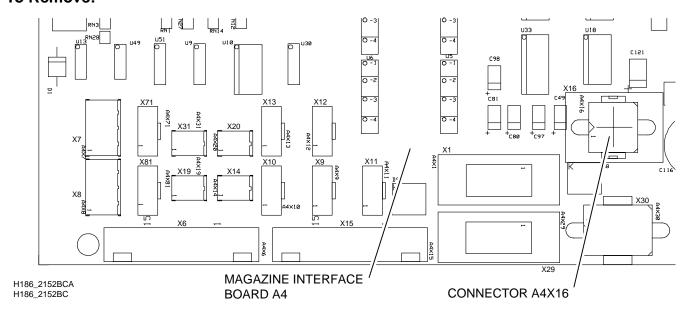


Warning

Dangerous Voltage

- [1] De-energize the MULTILOADER 7000.
- [2] Remove:
 - BACK PANEL
 - right SIDE PANEL
- [3] Open the FILM CHUTE.

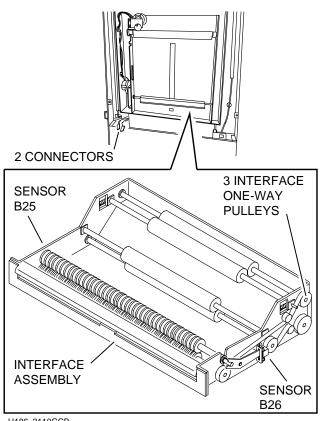
To Remove:





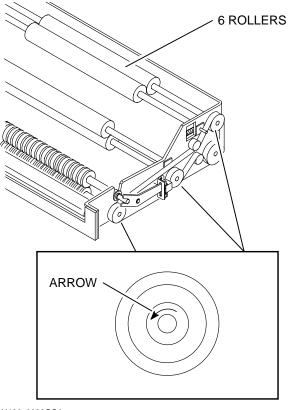
Possible damage from electrostatic discharge.

[1] Disconnect the CONNECTOR A4X16 on the MAGAZINE INTERFACE BOARD A4.



H186_2110GCB H186_2110GC

- [2] Disconnect the 2 CONNECTORS from the SENSORS B36 and B37
- [3] Remove:
 - INTERFACE ASSEMBLY
 - damaged INTERFACE ONE-WAY PULLEY



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Important

When you install any of the INTERFACE ONE-WAY PULLEYS, the ARROW must be visible from the outside.

[1] Reverse the steps in the removal procedure.

Postrequisites:



Important

The ROLLERS should only rotate when the PULLEYS are rotated counterclockwise. If the ROLLERS do **not** rotate, the PULLEY is installed backward.

[1] Manually rotate all of the INTERFACE ONE-WAY PULLEYS counterclockwise to check that all of the 6 ROLLERS rotate.

Section 3: Additional Service Procedures

Safety



Important

You must do these safety procedures:

- when any replacement occurs of an electrical component
- · using special measuring equipment

Checking the Ground Resistance



Warning

Dangerous Voltage

- [1] Disconnect the main power.
- [2] Check that the resistance is ≤ 200 milliohms between the GROUND TERMINAL in the POWER SUPPLY, and any metal surfaces of all electrical components, PANELS, COVERS, and FRAMES.

Checking the $M\Omega$ Resistance between Phases and Ground



Warning

Dangerous Voltage

[1] Disconnect the main power at the wall.



Note

The main power **must** remain disconnected for this procedure.

- [2] On the MULTILOADER 7000, move:
 - 2 CIRCUIT BREAKERS to the "I" position
 - POWER SWITCH to the "I" position



Important

You must manually hold the CONTACTOR closed during this procedure.

- [3] Insert an insulated tool through the top center of the CONTACTOR in the POWER SUPPLY. Press the tool down to hold the contacts closed.
- [4] Check that the resistance between all phases, L1, L2, L3, N, and ground or PE is $\geq 2 \text{ M}\Omega$.

Checking the Leakage Current



Warning

Dangerous Voltage

[1] Disconnect the main power at the wall.



Note

The main power **must** remain disconnected for this procedure.

- [2] On the MULTILOADER 7000, move:
 - 2 CIRCUIT BREAKERS to the "I" position
 - POWER SWITCH to the "I" position



Important

You must manually hold the CONTACTOR closed during this procedure.

- [3] Insert an insulated tool through the top center of the CONTACTOR in the POWER SUPPLY and press the tool down to hold the contacts closed.
- [4] Check that the leakage current between all phases, L1, L2, L3, N, and ground or PE is:
 - ≤ 7.0 milliamperes for a hard wire connection
 - ≤ 3.5 milliamperes for a connection using a PLUG

Publication History

Publication Date	Publication No.	Changed Pages	File Name	Notes
16FEB01	5E9999	All	ar3444_1_16feb01.fm	First Printing
06DEC01	5E9999	137 - 138	5e9999.fm	Added Section 3

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